TEXTILE BULLETIN

VOL. 47 FEBRUARY 7, 1935 No. 23

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Eleventh Southern Textile Exposition

TEXTILE HALL

GREENVILLE, S. C.

APRIL 8th to 13th, 1935

Everyone engaged in the textile industry is cordially invited to attend the eleventh Southern Textile Exposition in Greenville, South Carolina, April 8th to 13th. Practically all the space on the first and second floors of Textile Hall and in the Annex has been sold to leading manufacturers of textile equipment. New and improved machinery, installations, accessories, and supplies will be shown.

Arrangements for the comfort and convenience of visitors are complete. April 8th, 9th and 10th the secretary of The Textile Foundation and the heads of all American textile schools will be present. Wednesday, April 10th, the Greenville Section of the American Society of Mechanical Engineers will have a divisional meeting. Friday, April 12th, the Southern Textile Association will have an exposition dinner. Other interesting events will be on the program for the week.

Special railroad rates have been secured in the Southern territory, and later may be obtained in New England. From Greensboro on the north, and Atlanta on the south there will be a nightly Pullman car service. Passengers may leave luggage in cars here all day, making it unnecessary to register at hotels. Reservations for berths should be made as long in advance as practicable.

Mill executives who do not receive tickets by last week in March will confer a favor by informing us. Tickets will be sent immediately. It is our desire that every executive and department head have a pass good for the entire week. The general public will not be admitted to this show except on two designated days.

We invite inquiries and correspondence from New England and the South. Please remember the dates, April 8th to 13th.

Address all inquiries to

TEXTILE HALL

GREENVILLE, S. C.

Notice of Sale

of Clover Mills

CLOVER, S. C.

PURSUANT to an Order of Court, I will expose to public sale,

At Clover, S. C., on Saturday, March 2, 1935, at 10:00 A. M.,

to the highest bidder for cash, all the physical plant of Clover Mills Company, of Clover, S. C., consisting of Mills Nos. 1, 2 and 3 (all connected), with a total floor space of 78,748 square feet.

The Mill buildings are of brick and timber construction. There are 115 tenement houses, averaging four rooms to the house, 4 warehouses, machine shop, transformer house, roller covering shop, and other buildings adjacent to the main buildings. Siding connection with C. & N. W. R. R.

Clover Mills is a combed yarn Mill, with 24,036 ring spindles, balanced for 30s-80s two ply combed yarn. All necessary sprinkler system and water tanks.

Bidder must accompany his bid with certified or Cashier's check for $5,000.00, as evidence of good faith. All bids must be made subject to confirmation by the Court.

J. W. QUINN,
Receiver.

Maxwell Brothers, Inc.

Manufacturers of

PLYWOOD, WIREBOUND BOXES AND SHOOKS

Used by Textile Industries

For Shipment of Their Commodities

Offices and Plants At

Macon, Ga., and Jasper, Fla.

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PUBLISHED EVERY THURSDAY BY CLARK PUBLISHING COMPANY, 118 WEST FOURTH STREET, CHARLOTTE, N. C. SUBSCRIPTION $2.00 PER YEAR IN ADVANCE. ENTERED AS SECOND CLASS MAIL MATTER MARCH 2, 1911, AT POSTOFFICE, CHARLOTTE, N. C. UNDER ACT OF CONGRESS, MARCH 3, 1897.

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VOL. 47—NO. 23 FEBRUARY 7, 1935

West Argues Against 30-Hour Week

To cram additional employees, by means of the proposed 30-hour week, into the Cotton Textile Industry, which has already re-employed its members and is facing a marked falling off in the consumption of its products, would be a fantastic procedure contrary to the interests of both employers and employees, Robert R. West, president of Riverside & Dan River Cotton Mills, Danville, Va., and a member of the Cotton Textile Code Authority, January 30th, told the National Industrial Recovery Board in its employment policies hearing.

Mr. West also emphasized the undesirability of any policy being adopted by the NIRB which would require the setting up of classifications of occupations and the setting up of minimum wage scales for each such classification in the Cotton Textile Industry.

"It has been fully established and needs no repetition here that the 11,000,000 workers said to be unemployed are not divided over the various industries with sufficient equality to warrant the assumption that a further uniform reduction in the maximum hours permitted to be worked in the manufacturing industries would materially relieve the situation," Mr. West said. "The 'simple process of arithmetic' method, up to now in widespread use, assumes complete mobility of labor as between geographical sections of the country, and complete interchangeability of labor as between industries."

"The workers who have jobs at the present time," he continued, "are entitled to thorough consideration before further handicaps are put upon their opportunity to obtain a greater income. For a year and a half now the interests of those who have had employment have been subordinated to make jobs for the unemployed. Those employed have shared the available work. They have had to accept shorter working time in dull seasons without the possibility of being able to make it up in active seasons. They have given up opportunity to earn a little extra income on outside jobs. While code limitations on the individual worker's enterprise and ability to increase his earnings has meant work for others, it has also meant a sacrifice on the part of the employed worker. The net effect of the efforts of government, industry, labor and agriculture for shorter hours, higher hourly rates, and curtailment in production of foodstuffs is making itself manifest in the form of rising prices of what the workman has to buy. This proposal to further reduce the maximum hours permitted to be worked means higher costs and prices with no increase in the ability to pay. To be sure, it is proposed that the further reduction in maximum hours permitted to be worked be made with no loss in pay, but it is quite evident that this would not meet the increased costs of living occasioned by this general measure. While it is the hourly rate that determines cost of manufacturing it is the weekly pay envelope which pays the butcher and the groceryman, but the value to the worker of that pay envelope is dependent on the prices he has to pay."

"There is a contribution which our industry and others, which have restored their normal employment, can make to the problem of unemployment," Mr. West added, "it is through a resumption of the normal purchase of services and equipment for replacement and improvement which they make from the service and durable goods industries. But there is neither confidence nor ability in an industry to take this course if there is not some profit to establish credit or to furnish the necessary funds to carry on such work.

Discussing the impracticability of attempting to fix the various minima for various occupational groups in the industry, Mr. West pointed out that these proposals had been fully explored and rejected at the time of the adoption of the Cotton Textile Code.

"Any attempt to classify wage scales by occupation," he added, "was negatived by the very nature of the industry. Cotton textile mills scattered from Maine to California some forty or more distinct general groups classified according to products. The character of work in a particular occupation varies widely in these groups because of the different degree of skill required for a given task with respect to the particular character of the product which the plant is manufacturing.

"By way of illustration: The type of skill required of a weaver of fine fancy fabrics such as are made on dobby or jacquard looms is entirely different from the kind of skill necessary to make a competent weaver of plain coarse goods such as osnaburgs or sheetings. The requirements for weavers in segregated jobs are different from those for a non-segregated job. The fundamental difficulty is that while thousands are called 'weavers' there is a terrific difference in whatever a weaver is paid for, in different branches of the industry and even in the same plant."

"The Cotton Textile Code," Mr. West concluded, "looks for certain broad results; under that Code there is a constant process of adjustment in wages to meet changing conditions and circumstances. The trend of that adjustment has been—and must be—as long as the Code is in effect—upward. As to the argument that competitive conditions require each detail of wage scale to be worked out, the answer is that that is the kind of a task in industries such as ours which very frankly we believe to be beyond the competency of the representatives of the industry. We believe that your board would find it of equal difficulty. To attempt it at this time would result in confusion, discord and uncertainty at a time when what is needed is confidence, stability and united effort.

Record Attendance and Fine Discussion At Weavers' Meeting

THE meeting of the Weavers' Division of the Southern Textile Association, held February 2nd at Hotel Franklin, Spartanburg, S. C., was one of the best meetings ever held by any group in the Association. More than 200 men were present, setting a new record for attendance.

The technical discussion, in which a large number of members took part, was unusually interesting and developed a great deal of worthwhile information.

Smith Crow, superintendent of the Drayton Mills, and chairman of the Division, received high praise for the interesting and efficient manner in which he led the discussion and for the fine attendance.

Before adjournment, the members voted that they preferred to have the fall meeting on a Saturday and that it be limited to a morning session only. They voted also, that the time and place of the meeting be left to the chairman.

On account of the length of the discussion, half of it is being published this week and the remainder will be carried next week.

The first half of the report of the meeting follows:

Speed of Slasher

Chairman: The first question is: *"At what speed and temperature should a slasher be operated to give a well slashed warp?"* Will someone who has had experience with various speeds of slashers and various temperatures on different yarn counts give us his experience?

W. E. Baker, Overseer Weaving, Baldwin Mill, Chester, S. C.: We have experimented quite a bit on different speeds. We run almost all kinds of counts. We find we get better results if we deliver about 34 yards a minute on 64x60s. Of course, the numbers have a lot to do with speed. On 64x60s we tried around 45 yards a minute, and it did not do so well. We tried it at 28 yards a minute, but at the present time we are running our slasher to deliver at 34 yards a minute. We find we get a better finish and do not have as many ends broken; in other words, we get better results at 34 yards a minute than at any other speed we have tried yet. The temperature runs around 228 on the big cylinder and around 224 on the little cylinder. We find we get a better finish and a better warp all the way around at 34 yards a minute than on any other speed we have tried yet. We have a leash on every warp.

Chairman: Do you have automatic controls?

Mr. Baker: Yes, sir. We have automatic controls on the cylinder, on the vats, and on the cooking kettles.

Chairman: Do you find you get better results with the automatic controls than you did before you installed them?

Mr. Baker: Much better. We try to leave about 7½ per cent moisture in our yarn when it is finished.

W. E. Hammond, Supt., Balfour Mills, Balfour, N. C.: This information from the Baldwin Mill is what I attend these meetings for. When a man who is in position to make the various tests on slashing reports them, it is worth a great deal to a man from some mill which is not in position to make the tests. Sometimes we have not slashers enough to make the tests, and that is my case.

We slash on 80 squares, and up to a few months back we were running at 47½ yards a minute but found it necessary to bring our slashing down in order to dry the yarn. At the present time we are running 47 yards a minute, 4,100 ends. That finishes up about 8 to 8½ per cent moisture. We keep our temperature in the storage kettle at 180 degrees. The temperature we carry in our size box is 204-205°. On the large cylinder it is 230°, which might be a little high, but we have to do it on account of excess of speed. On the smaller cylinder we carry 240. The steam pressure carried on the cylinder registers from 4 to 5 pounds. We put in about 10 to 11 per cent size on our yarns. I have the moisture content here as 8 per cent, but it runs sometimes up to 8½ or 9 per cent moisture. If we do not go beyond that we have no trouble with mildewed warps. I have carried as high as 47½ yards to the minute, and at that time I used two ounces of an oil to 138 gallons in the size kettle, ten minutes before heating the size, to prevent mildew.

I might say this: I heard mentioned at one weavers' meeting as to the weights of the squeeze rolls on the slasher. Our small back roll has 320 pounds. The second squeeze roll is 409 pounds. It depends on the yarn you are making.

Chairman: You say you use an oil to prevent mildew?

Mr. Hammond: Yes. We have tried two for that purpose. It does help to prevent mildew and keeps down corrosion. If the beam head is in condition where it might produce a rusted cylinder, it prevents that.

Chairman: What percentage of moisture do you use in your yarn?

Mr. Hammond: About 8 to 8½. Sometimes it runs up to 9 per cent, especially in the morning. We make 30s warp.

Robert W. Philip, Editor *Cotton*, Atlanta, Ga.: That Question: Is Mr. Hammond using corn or potato starch, and does it make any difference in the drying of the warp?

Types of Starch

Mr. Hammond: I might say it has all in the world to do with it. When you do change to a different starch, there is a world of difference. It is very important that the slasher man try to make a uniform mixture. If he has 150-gallon kettles, he should try to make 150 gallons every time, not 145 gallons in one and 148 in another, etc. That is very important in making good yarn.

Mr. Baker: In making ours, we measure our water before it goes in there; we start with 100 gallons of water and finish up with 136 gallons. It generally stays that

way, because we have a storage kettle with a check.

Mr. Baker: Ours is 40 per cent.

The gentleman was speaking of the rollers just now. We use a 575-pound roller on the front—what I call the front roller, and a 450-pound roller on the second. We put 6 yards on to start off with, and about 4½ yards on the first roller.

Mr. Philip: Was that thin-boiling corn starch?

Mr. Hammond: Ours is thick-boiling.

Cooking the Size

Mr. A.: I should like someone to discuss the amount of cooking. We cook ours for one and a half hours.

Chairman: At what temperature?

Mr. A.: At 160 degrees. We get it to boiling well and cook up our compound before we mix it with starch and water.

Mr. Hammond: We carry ours at 202. That is the boiling point at 2,250 feet above sea level. I found when I got into the mountains that the boiling point is higher.

Mr. Hammond: We cook it an hour and forty-five minutes.

Chairman: How many here are using corn starch? Raise your hands. There are several hands up—you tell us how long you are cooking your size on corn starch.

O. E. Bishop, Overseer Weaving, Springstein Mill, Chester, S. C.: We bring it to a boil and cook it an hour and forty-five minutes.

J. B. Mitchell, Supt., Belton Mills,, Belton, S. C.: We cook ours for one hour. It takes thirty minutes to bring it up to the boiling point, and then we cook it for an hour, which is an hour and a half. We cook it at a temperature of 208 degrees.

Ray Swetenburg, Asst. Supt., Ware Shoals Mfg. Co., Ware Shoals, S. C.: After ours is brought up to a boil, we boil it for one hour.

Mr. B.: You are right on that.

H. H. Wood, Asst. Supt. Weaving, Oconee Textiles, Inc., Westminster, S. C.: Is anybody using sago starch?

Chairman: There is another one. Three men are using it. What kind of results are you getting?

Sago Starch

Mr. Wood: We get good results using sago starch. I have used corn and potato starch. You have to cook it a great deal longer, and in starting your slashers on Monday morning you have to start earlier. Sago starch has to be cooked four hours. It gives as good work as potato or any other starch I have ever used.

Question: What class of goods?

Mr. Wood: I run from 40s single up to 12s, 2-ply. 700 to 4,300 ends.

Chairman: Part carded and part combed yarn.

Mr. Wood: Construction from around 3 to the inch to 94.

W. J. Grant, Overseer Weaving, Monarch Mills, Monarch Plant, Lockhart, S. C.: I have been getting good results with sago starch. I boil it one hour and 45 minutes.

Tension of Slasher

Chairman. The second question: *"What part does tension at the slasher have in giving good running work or good running warps in the weave room?"*

Mr. Baker: Tension is one of the most important things about slashing. We have free wheeling on our slashers, and that takes off every bit of the tension that is on the yarn and leaves every bit of the elasticity in there. When it gets to the weave room the elasticity is still in there. I think tension is one of the most important things we handle, because if you stretch all the elasticity out of the yarn in the slasher, then it breaks when it gets to the weave room.

Free Wheeling

Question: What is free wheeling?

Mr. Baker: I can't explain what free wheeling is, but you have seen it yourself. If the cylinders are not traveling at the same speed, it will let that cylinder drop back to where it does not pull the yarn at all. It is practically the same thing as free wheeling on an automobile. With free wheeling, if one cylinder is traveling faster than another, it is not pulling the yarn; there is no stretch on the yarn at all.

Question: You say you would take the positive drive off?

Mr. Baker: That the free wheeling takes the place of the positive drive.

Stretch of Yarn

Mr. Hardie: Mr. Chairman, how about taking a vote on the percentage of stretch?

Chairman: Tell us what percentage you have.

Mr. Hardie: The last test we made we had about 1½ per cent on 30s warp yarn.

Mr. Philip: How did you make the test?

Mr. Hardie: We have two yardage indicators, one at the back and one at the front. When tuned together, both making the same speed, we had a rubber cushion roll, and we think it is just about as accurate as we could get. I would like to know what percentage of stretch in their yarns other mills have.

M. C. Stone, Supt., Arkwright Mills, Spartanburg, S. C.: We have taken only one test, and it showed 1¼ per cent.

F. D. Lockman, Supt., Monarch Mill, Lockhart, S. C.: We vary from 1.2 per cent down to .94 per cent. You see, we have six slashers, and they do not all run the same. That is on 30's yarn. The indicator is on the loom beam in front, and on the roll just before you go in the size box on the back.

Chairman: How many of you agree that the tension on the yarn or the percentage of stretch at the slasher is a very important factor in our weaving?

Mr. F. D. Lockman: Before we pass on that, I should like to say that just before we began to make those tests I was running all the way up to 2 per cent—ran all the way from 1½ up to 2.

Mr. Philip: Did that affect your loom stoppage?

Mr. Lockman: Well, it is awfully hard to swear to what effects your loom stoppage, but when we got it down we had very good weaving.

Variation in Size of Rolls

M. C. Stone: Has anybody ever calipered the diameter of the copper size rolls? We had occasion the other day to take some size rolls out, because they streaked the yarn They had been changed from back to front. There was a sixteenth of an inch difference in the size of them.

Chairman: How many have ever done that? Four, besides Mr. Stone. Give us your experience on that.

J. M. James, Overseer Weaving, Phenix Mill, Kings Mountain, N. C.: I have found mine to be the same.

Mr. Bishop: I just checked mine; I found them to be the same. I think they should be the same.

Mr. Swetenburg: I found ours to be the same.

A. H. Williams, Overseer Slashing Drayton Mill, Spartanburg, S. C.: I found some variation.

Chairman: Mr. Stone, in checking yours and finding this variation, have you changed them and made them

Mr. Stone: We haven't yet, but we expect to.

Chairman: Of course, we all know what a difference

that would make in the size box. I think that is a very important point.

Mr. Stone: Of course, the big roll being in the back, it looks as though it would deliver more yarn than the front roll could take up, but it did not.

Chairman: Your yarn did not slack between the two rolls?

Mr. Stone: No, sir.

Chairman: I wonder what made your yarn run like that?

Mr. Stone: I don't know. I guess it has been running that way for 37 years.

Mr. Wood: The yarn being wet, it naturally would have some shrinkage between the two rolls, and that might take up some of the slack there.

Chairman: That might be the explanation. If the large roll were in front, there would probably be some slack there.

J. L. Chalmers, Greenwood, S. C.: I had one front roll to go bad and bought a new one and put it in, and I had quite a bit of trouble with that slasher. I found all the other rolls, which had been running for some ten or fifteen or twenty years, probably, were as much as 1/8 of an inch smaller than the diameter of the new roll. If you ever change one of those rolls, be sure to change both of them.

Personal Element in Slashing

Chairman: We will go on to the last question in slashing. *"How much does the personal element affect slashing?"* The personal element is a very important thing in the slasher room. It is important to have efficient men that you can absolutely depend upon to properly cook the size and run it at the right temperature and also determine just when the blankets should be changed. I think the personnel in the slaser room can enter materially into making good work for the weave room.

Hard and Soft Warps

E. L. McCormack, Designer, Oconee Textiles, Inc., Westminster, S. C.: They were talking about tensions a minute ago. I have heard a theory expressed as to how hard the warp should be wound; some people claim that soft warp gives a little cushion to the yarn in weaving and that there is less strain.

The Chairman: If I get the thought correctly, the question is which is the best for good weaving results, hard wound warp at the slasher or soft wound warp.

Mr. Hammond: I would think it should be medium, Mr. Crow.

Chairman: In between—neither hot nor cold. (Laughter.)

F. D. Lockman: Mr. Chairman, it stands to reason that, if the warp is very hard, you stretch the yarn; and we all know, that know how to weave at all, that in too soft a warp the yarn will pull down in there and you can not make good clotr. So we shall have to take that gentleman's statement of medium as the best.

Loom Speed and Supply Costs

Chairman: If there are no other questions on slashing problems, we will go on to the weave room. The first question we have listed here is: *"What part does loom speed have in the supply bill?"*

Thomas Henderson, Draper Corporation: By that question do you mean just the parts or the loom repairs or what?

Chairman: All—everything in general.

Now, some of you weavers or superintendents who have tried various speeds on your looms, high speed and medium speed and low speed, give us your experience on that. Did high speed run your supply bill up, or did it not?

Mr. Baker: We have some looms in our plant running 155, have some running 160, and have some other looms running 192. Outside of our leather bills—the cost of the leather goods on the X models (of course, our looms are new; they are eight or nine years old), outside of our leather goods, the supply bills are lower on the 192-speed looms than on the others. Of course, the other looms are old. They have to be covered about every six weeks.

Question: Haven't you had some running at 204?

Mr. Baker: We did have some at that, but we are not running it any more.

Question: You did not like that?

Mr. Baker: No, that is too high. But the X Model loom will stand that speed better than the old model loom will stand 160.

F. D. Lockman: We have practically the same condition as Mr. Baker had. We had 860 of one model of loom that were put in in 1930 and had some others that had been put in in 1905. We ran our 1930 model looms at 180 and ran our others at 160. Of course, our supply bills are less on the 1930 looms than on the 1905 looms, although we have ten times more of them. We did try running our old looms at 170 for a year and a half and then put them down to 160. We are not getting enough yarn to run them at 160 for 80 hours. If we did, I think I would put them up to 170 and take the difference in the cost of the supplies.

Effect of Speed on Production

W. K. Sawyer, Designer and Cost Accountant, Waldensian Weavers, Inc., Valdese, N. C.: What is the difference in the percentage of production when looms are raised from the speed at which they were first started to higher speeds? My experience has been that when that speed is increased the percentage of production has dropped and the supply bill has gone up.

Mr. Henderson: I have been in contact with quite a few experiments in different mills on increasing the speed of the looms. Invariably the increased speed made the cost prohibitive. What I mean is that a loom designed to run at 160 picks will not run successfully at 180. I think for high speed the looms should be designed for high speed; then it can be done successfully. Otherwise the cost is prohibitive.

Chairman: I think Mr. Henderson hit the nail on the head when he said that a loom should not be run beyond the speed at which it is constructed or built to run. I think that is the whole thing in a nutshell when it comes to loom speed. If we go beyond that we are going to run the supply bill up and the efficiency of that loom goes down.

Mr. Baker: I should like Mr. Henderson to explain what speed the X Model loom should run.

Mr. Henderson: Depending on the width. A 48-inch loom about 180, for the X Model.

Life of Shuttles

Mr. D.: What is the life of the shuttles on high speed?

F. D. Lockman: Eighteen months.

Mr. D.: Do you keep an individual loom record of shuttles?

F. D. Lockman: Yes, sir.

Mr. D.: And they last as high as 18 months?

Mr. Lockman: Yes, sir. And that is 80 hours a week.

E. H. Thomas, Overseer Weaving, Abbeville Cotton Mill, Abbeville, S. C.: We keep an indivulal record on the shuttles, and we get a 22 months' average on the shuttles. We run our 40-inch loom at 160 picks and the 36-inch loom at 160 picks. As to the speed of the looms, it depends largely on the width and the kind of looms

that you are going to operate. The old E Model loom (40-inch loom) was designed and built to run at 160 picks a minute and built with a good deal of eccentricity in the lay. When you speed this loom above 160 picks per minute, you creat quite a lot of vibration in the loom, which will have a very bad effect on the loom all over. There is a tendency to lift the lay and break your swords. It put your loom in a bad strain.

Higher Speed on New Looms

As to the Model X loom, I was in charge of the first Model X job in the South, being installed and operated. We tried a great many different settings on this loom, and we found that the loom would operate as well at 192 picks a minute as the E Model loom will at 160. The main feature I could find of difference in the loom was that the crank pins in the swords had been lowered about one and a half inches and the loom could be operated at higher speed without creating extensive vibration We found that the point of the shuttles falling in would strike the shuttle feeder on the battery end and cause the loom to give some trouble in changing, giving double picks. We found that the Model X loom could perform just as well on higher speeds as the Model E at 160. We started with 40 looms on 80 squares, and we ran on our 100x60 broadcloths on Model X looms; the weavers operated 18. We changed the harness to the 17 degrees standard cams and made this improvement by actual test by efficiency engineers—that it took 34 looms on 100x60 broadcloths to produce as many loom stops as had been produced on the 18. On the 80 squares they were running from 40 to 65 looms to produce as many loom stops on 80 squares as on the 40 old models.

Factors Affecting Loom Speed

Mr. Sibley: Don't you think that when a loom is designed for 160 picks to the 40-inch loom, it is designed more or less to fit the industry as a whole? For that reason, I think if a mill has, perhaps, better cotton, if it is making better yarn, if it has a weave force better than the average, I don't think it should be satisfied to sit down and make only the average number of picks. I don't think it is altogether the design of the loom. I want to leave the thought that the yarn that is made, the quality of the cotton and the fabric loom enter into it.

Mr. Hammond: I think the X Model loom will run as well at 192, which is its standard speed, as the E Model will at 160—although under some conditions you might bring that up to 192, depending on the grade of the cotton and the age of the loom and other factors. I do think that a high-speed loom will be hard on the shuttle and require more leather goods. I have one hundred per cent X Model looms; and I should like to say that on the number I have our cost has been reduced from $60 to $75 a week from that of the old looms that we had in there, notwithstanding the cost for the leather goods is much higher. But it has been our experience that the cost of the actual repairs and parts is very much smaller.

The speed of a loom has absolutely nothing to do with the thread breaks on the loom. I am satisfied that the speed does not increase the breakage of the yarn if the loom is in good condition. We get an average there now of about 0.56 stops per hour; that is a little over one-half stop per loom, on 80 squares.

Types of Let-Offs

Chairman: Let's go on now to the next question: *"Are mechanical let-offs better than friction lets-offs?"*

Mr. Henderson: I believe the mechanical is better than the friction, for many reasons. It takes the tension away—reduces the tension. Then again, on some weaves it is necessary to weave the cloth with a certain breaking strength. The only thing that controls that after it goes to the loom is the tension under which the cloth is woven. If it is woven too tightly it is going to change the breaking strength; if it is woven too losely it will affect the breaking strength. I have in mind one mill that was weaving adhesive cloth. That is very heavy, and they could not get it up to the standard required for breaking strength with the friction let-off. They changed to the automatic.

H. H. Wood: Would you recommend the mechanical let-off for fine rayons, etc.?

Mr. Henderson: I know one mill that has them. I saw some this week, 100 denier warp, 150 denier filling, satin, 150 by 180. That is about as heavy as you want to get them. That was with a mechanical let-off.

Chairman: Has anyone had experience with the mechanical let-off and then changed to friction? If so, what were the results?

Mr. E.: We changed from the friction let-off to the mechanical and got much better results. But if your temperature is a little too heavy, then the chain has a tendency to bind, and when it does move it jumps too much. That is on that particular class of goods—denims.

Mr. Wood: I find that on some classes of goods, rayons especially, the friction let-off is much better than the mechanical let-off. You can get more even piece of goods with the friction let-off than with the mechanical.

Mr. Henderson: My experience shows me that it has been a let-off problem only when the weaver became convinced that his trouble was not elsewhere.

Mr. McCormack: What provision does the mechanical let-off make for a very low pick count—about seven picks?

Mr. Henderson: They have different combinations. They have high range and low range. I don't know how you would do it if you are going to get down as low as seven picks per inch. You can take a gear off and change the let-off.

Chairman: To get that low in picks per inch, it would be necessary to make certain mechanical changes?

Mr. Henderson: Yes, sir.

Mr. Wood: When you take the gear off, don't you make it a friction let-off?

Mr. Henderson: You do, but it is a compound friction.

Mr. Grant: Speaking of the speed of the let-off, that is what controls the warp let-off if you go from a higher pick count to a lower one; you can raise your driving-rod arm, and that speeds your let-off, gives you a long stroke. Also, you can change your pinion gear. I have had to do that in weaving some samples. At one time I was in a mill in which the looms were equipped with both friction and mechanical let-offs. When I went to that mill they were running the friction. It was on 3-, 4- and 8-harness goods. We had a lot of trouble keeping the tension right, and I changed one alley of looms to the mechanical let-off, and finally changed the whole mill.

Mr. James: I have about 130 looms on the friction let-off. Some of you weavers here that use the friction let-off, what is the best thing to use on that—chain or cork leather? Round chain or flat chain?

Prefers Flat Chains

Mr. E.: I would use a flat chain. That gives the best appearance.

Chairman: You are speaking of cotton goods?

Mr. F.: Yes, sir.

Mr. G.: I don't know whether he is speaking of top beams or bottom beams.

Mr. James: Bottom.

(*Continued on Page 12*)

Direct-Current Transmission

A COMPLETE new system for the transmission and distribution of electric power, making it possible for the first time to interconnect, with static apparatus, non-synchronous systems, has been developed. This has been done by the utilization of electronic devices, including Thyratron and Phanotron tubes. With the new system a higher order of stability has been obtained as contrasted with previous practice, and faults similar to short circuits result in a reduced instead of an increased power flow on the circuit involved.

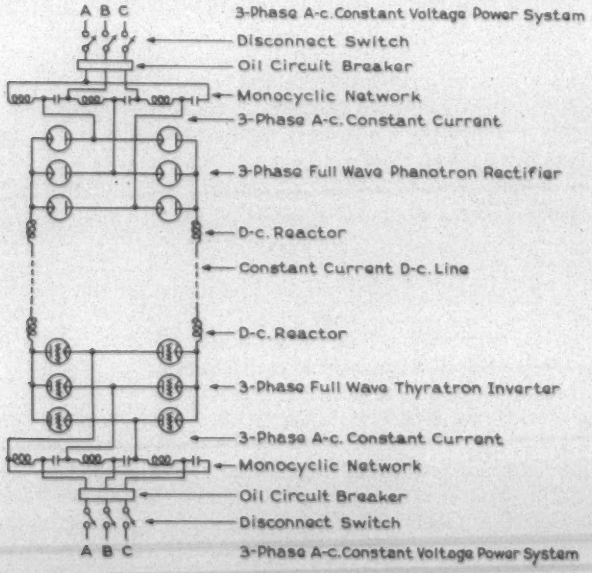
The new system, constant-current direct-current transmission, was described in a paper presented at the winter convention of the American Institute of Electrical Engineers, in New York City in January, by Dr. C. H. Willis, B. D. Bedford and Dr. F. R. Elder. Dr. Willis is of Princeton University, and the other two men are of the General Electric Company. Dr. Willis also is associated with the General Electric Company in the direct-current transmission work, he having done developmental work in this connection at Schenectady during and following his Sabbatical year. In addition to the formal paper presented at the Institute meeting by these three men there were discussions by C. W. Stone and Dr. A. W. Hull, also of the General Electric Company, who have been associated with the work.

The following information is from the General Electric Company:

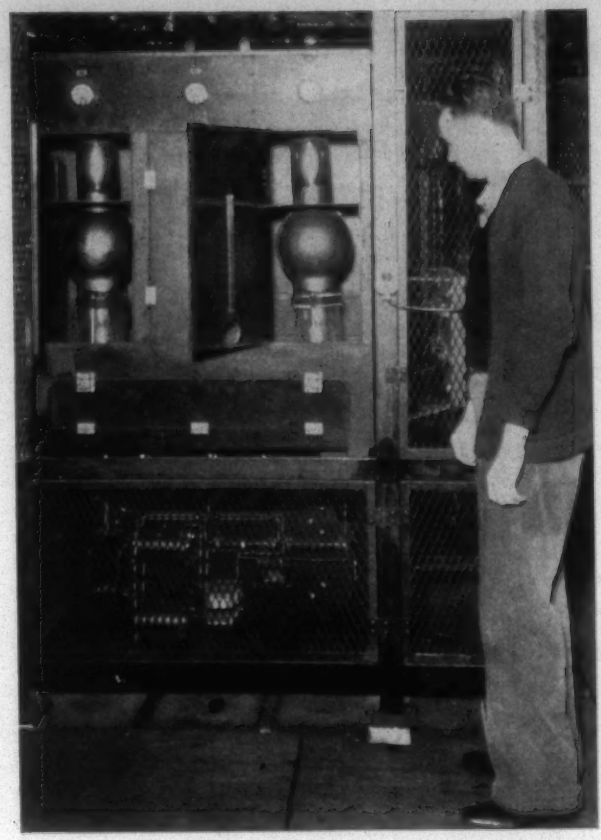
Direct-current power transmission by constant current is in itself not new, but the work described represents the first time that such transmission has been accomplished in a commercial capacity, even in test, by means of electronic tubes.

In brief, the essential features of the new system of electric power transmission are:

It is a constant-current direct-current system.



Schematic Diagram Showing Arrangement of Circuit



Close-up of Thyraton Tubes Employed to Invert Direct to Alternating Current at Receiving End of Line

It is a system where the power flow is in one direction only at the will of the operator; but the power can be transmitted in either direction if desired.

Control of the amount of power flow is under the control of the operator at all times.

No wattless power is transmitted.

A short circuit on any circuit of this type results in a reduction of power flow on the circuit involved.

Power can be transmitted by either overhead or underground lines any distance desired.

A circuit of this type can be tapped at any point to furnish power or to take power.

The nature of the circuit is such that systems of like or unlike frequencies can be operated together to feed any other systems of like or unlike frequencies.

Overhead systems of this type should be more reliable, and less disturbance will be caused by lightning.

The system cannot become out of phase or out of synchronism with the system feeding it or with the system receiving power.

Alternating current is at present almost universally used for power transmission, in spite of the difficulties that are so well known to electrical engineers. The difficulties of connecting systems, or even generating plants, together are many, as systems of unlike frequencies can not be connected together readily except by means of motor generator sets, and the power flow through these motor generator sets is uncontrollable except by elaborate and expensive apparatus. Systems of like frequency are difficult to keep together in synchronism because of the phase angle resulting from the reactances of transformers

and circuits. Control of power flow is largely determined by the demands of the system, and the operators have little control except by means of circuit breakers, which may be opened or closed, automatically or manually, usually resulting in interruption of service. This means that in case of faults anywhere on the system, a large concentration of power results, which may be sufficient to shake the system apart and cause considerable damage.

The newly developed direct-current system, on the other hand, places in the hands of the operator full control of his system. He can at all times control not only the amount of power flow but its direction. The system cannot get out of phase or out of synchronism; and faults, such as short circuits, cause a drop in power flow rather than an increase such as exists on all present systems.

Stations of like frequency or unlike frequency can be connected together with the new system to feed the same distributing system without any trouble.

As most loads of power systems are of lagging power factor, the transmission of the resulting wattless current adversely affects the capacity of the circuits, the transformers, and the generators feeding the system. With the new system, all the load on the generating stations will be slightly leading, rather than lagging; and no wattless power is transmitted. The wattless current required by the loads is supplied by the inverter equipment. This results in lower generator and transformed heating, and improved regulation.

In the paper presented by Dr. Willis, Mr. Bedford and Dr. Elder there was described a circuit installed in the Research Laboratory at Schenectady arranged for the transmission of 150 kilowatts of power, the circuit operating at a maximum peak of 15,000 volts and 10 amperes. In one of the factory buildings in the Schenectady works there has been made a larger installation, referred to in the discussion at the Institute meeting, in which connection is made to a 13,800-volt, 60-cycle, three-phase, alternating-current bus of the New York Power and Light Corporation with a circuit for transmitting a constant direct current of 200 amperes at 15,000 volts. This circuit includes about 15,000 feet of underground conductor, and is connected back to the 13,800-volt bus, after being inverted from direct- to alternating-current of the proper characteristics.

In this 3,000-Kilowatt constant-current direct-current circuit, a group of condensers and reactors are so connected to the 13,800-volt bus that constant-current alternating current is obtained; the circuit being tuned so that this current is 200 amperes, the voltage varies with the load. The alternating current is then rectified by means of six Phanrotron tubes. (If two-way transmission is desired, Thyratron tubes are used.)

High-voltage constant-current direct current is thus produced. After passing through some direct-current smoothing recators the current goes through the 15,000-foot length of underground conductor—representing transmission of the energy—after which it is received and passed through another direct-current smoothing reactor. Six Thyratron tubes then invert the direct-current into 60-cycle three-phase alternating current of constant value. Another group of reactors and condensers then changes this constant current into constant-potential alternating current, the current output at this point varying with the load. Connection is then made back to the alternating-current bus in the factory. Such an arrangement of condensers and reactors constitutes what is known as a monocyclic network.

(*Continued on Page 18*)

PERSONAL NEWS

M. C. Spivy has been elected president of the Bonham Cotton Mills, Bonham, Texas.

Basil Gibson has been promoted to assistant manager of the Bonham Cotton Mills, Bonham, Texas.

Herbert A. Burow has been promoted from superintendent to manager of the Bonham Cotton Mills, Bonham, Texas.

M. E. Mobley, who has been overseer of carding and spinning at the Haleyville plant of Alabama Mills Corporation, Haleyville, Ala., has been transferred to the company's plant at Russellville, Ala.

Ben F. Houston, of Charlotte, well known representative of Wm. C. Robinson & Sons Co., was painfully but not seriously injured in an automobile accident this week. He was reported as doing nicely on Wednesday.

Robert Littlejohn, who has been overseer of weaving at the Pelzer Manufacturing Company, No. 1, Pelzer, S. C., has accepted a similar position with the Victor plant, Victor-Monaghan Mills, Greer, S. C.

George O. Mintz, formerly overseer spooling, slashing and warping at Loray plant of Manville-Jenckes Corporatiton, Gastonia, N. C., is now overseer twisting, spooling and warping at the Sibley Manufacturing Company, Augusta, Ga.

John A. McCarn has resigned as overseer carding and spinning at the Spencer and Spindale Mills, Spindale, N. C., to become general overseer of spinning and spooling at the Norwood Manufacturing Company, Norwood, N. C. He succeeds J. M. Shinn, who retired January 1st, as noted.

Walter S. Horne has been appointed sales manager of the drapery and bedspreads departments of Burlington Mills, Burlington, N. C., and will have charge of the company's New York sales offices. He has been identified with the sales department of the mills for the past six years.

L. G. Manning Now With Corn Products Refining Co.

Beginning February 1, 1935, L. G. Manning entered the employ of the Corn Products Refining Company as associate in the development and research department on textiles.

Mr. Manning has an enviable record of broad experience and lengthy service in the textile field. During his many travels before serving in the World War, he has been mechanic, foreman, superintendent and salesman for several of the leading textile concerns in the West and South.

Honorably discharged from the army with two citations (including one from the French Government), Mr. Manning spent the following eleven years as professor in the New Bedford, Mass., Textile Institute. Most of his time, however, during this period, was taken up with development work; testing and analyzing materials and problems of the textile industry.

This work has brought him into close contact with companies distributing fibres, yarns, machines and various other products including cotton, silk, wool and rayon. In conjunction with mill work, Mr. Manning helped in solving on an average of one hundred and twenty-five problems a year.

Mr. Manning's previous experiences in the textile industry included positions as sales representative of Scott & Williams; mill superintendent of Root & McBride and manufacturing executive in organizing and developing textile mills of Marshall Field & Co.

Mr. Manning combines a knowledge and experience in the practical operations of a textile mill, together with the necessary technical training.

Victor H. Berman Honored

Victor H. Berman, president of the Onyx Oil & Chemical Co., Jersey City, N. J., was signally honored by Governor Harold G. Hoffman, of New Jersey, from whom he received an appointment to serve with former Governor Alfred E. Smith of New York, as a member of the Palisades Interstate Park Commission.

Mr. Berman's deep interest and wide activity in many civic affairs, and his unusual executive and organizing abilities, particularly fit him for this high position.

In addition to his many duties as president of the Onyx Company, his co-operative work with dyers and finishers, and his work as a member of the executive board of the code authority of the Sulphonated Oil Manufacturers, Mr Berman finds time for numerous outside activities.

Additions To Staff and Directors of Atlanta Harness & Reed Co.

Barney R. Cole has recently joined the sales force of the Atlanta Harness & Reed Co., Atlanta, Ga. He represents the company in the Georgia and Alabama territory.

At the recent stockholders' meeting, G. P. Carmichael, who has been secretary and assistant treasurer for the past several years, was added to the board of dirctors. Pierce Robert was re-elected treasurer and general manager and a member of the board. Other directors added to the board include Ronald Ranson, who is executive vice-president of the Fulton National Bank, and Thomas H. Daniel, who is general agent for the Union Central Life Insurance Company. L. W. Robert, Jr., and L. W. Robert, Sr., were re-elected directors.

Textiles, Inc., Gets Authority For Loan

Gastonia, N. C.—In order to fill contracts for yarns, Textiles, Inc., has been authorized to borrow $150,000 through A. G. Myers, receiver.

The order authorizing the loan was signed by Judge E. Yates Webb.

In his petition for authority for the loan, Mr. Myers stated that it is needed "due to increased cost of operation and cost of raw materials and in order to fill contracts for yarns and to preserve and care for the property of the corporation.

Another order signed by Judge Webb authorized Mr. Myers to pay interest on loans from banks to the receivership totalling $1,111,741.16. While the rate of interest is 6 per cent, Mr. Myers stated that the banks have agreed to accept a rate of 4 per cent per annum for the period of July 1, 1934, to and including December 31, 1934.

The total interest to be paid is $22,688.09.

It is to be paid out as follows: American Trust Com-

pany, $4,088.89 on loan of $200,000.00; Charlotte National Bank, $2,044.44 on loan of $100,000.00; Citizens National Bank of Gastonia, $493.51 on loan of $24,-139.01; First & Merchants National Bank of Richmond, $4,088.89 on loan of $200,000.00; First National Bank of Gastonia, $876.71 on loan of $43,835.46; First National Bank of Philadelphia, $2,044.44 on loan of $100,-000.00; Merchants & Farmers Bank of Charlotte, $959.94 on loan of $47,996.79; South Carolina National Bank of Greenville, S. C., $4,002.38 on loan of $195,769.90; and Wachovia Bank & Trust Co. of Winston-Salem, $4,088.89 on loan of $200,000.

Textile Salvage Co.

Textile Salvage Company has established offices and warehouse at 700 S. Poplar street, Charlotte, and will buy and sell all kinds of textile machine parts, new and used. They report that they have an assorted stock of both new and used machine parts. The company, of which Sam Schwartz is president, will also deal in mill remnants, waste and rags.

Cannon Asks Receiver For Klumac Mills

SALISBURY, N. C.—Cannon Mills, Inc., in a supplementary complaint filed with the clerk of the court of Rowan County, asks that a receiver be appointed for the Klumac Mills of this city and that the plaintiff recover $233,512.39 allegedly due by the mill on a note and open account.

On October 26, 1934, the Cannon Mills, Inc., filed suit against the Klumac Mills for $50,000 allegedly due on a note. In a cross action filed by Klumac Mills, January 25th, liability of the $50,000 note was denied at the time and a counter claim for $687,500 alleged due on breach of contract also was filed.

The supplementary complaint filed today is an answer to the cross action.

OBITUARY

JOHN H. ADAMS

High Point, N. C.—John Hampton Adams, president of the Adams-Millis Corporation, died at his home after several weeks' illness from heart trouble. He was 59 years old. He was also president of the Highland Cotton Mills and chairman of the board of the Triangle Hosiery Mills. A native of South Carolina, Mr. Adams came to High Point in 1900 and entered the hosiery business, eventually becoming head of one of the largest and most successful knitting companies in the South. He is survived by his widow and two daughters. Funeral services were held Saturday.

MRS. E. H. BOST

Erwin, N. C.—Mrs. Edwin W. Bost, wife of the general manager of the two Erwin Cotton Mills located here, died suddenly last Saturday as a result of a heart attack.

Mrs. Bost, a resident of Erwin for more than 12 years, had been active for many years in religious and civic betterment work in Erwin and had endeared herself to many of the local residents for the interest she showed in promoting their welfare. She was very active in the work of St. Stephens Episcopal Church here.

Weavers Meet in Spartanburg

(*Continued from Page 7*)

Mr. G.: We have had experience with crinkle. We have found that flat chains are about the best thing we have come across to make the crinkle more even.

Question: Do you use any grease or anything on that chain?

Mr. G.: Graphite.

Mr. Wood: I use the flat chain. I find that the mechanical let-off, for almost any class of goods, is the best let-off you can find, but I have run into a class of goods, especially high construction rayons and silks, on which I could not use the mechanical let-off and have had to use the friction let-off.

Metal-Back and Pitch-Band Reeds

Chairman: I do not think we have determined which is the best let-off, but that we have decided that each has its place, according to the kind of goods we are weaving.

We will go on to the next question: *"Which are better, metal-back or pitch-band reeds?"* How many in here have used all-metal reeds? Raise your hands. Two. What has been your experience?

J. M. Bolt, Overseer Weaving, Brandon Corp., Greenville, S. C.: The biggest objection and the biggest fault I have found with it was in repairing it. If it ever got any little lick or got bent up, you could not repair it.

Mr. Wood: As long as you can use the pitch-band reed, or until you get to such high sleys that you can not use the pitch-band reed, I think it is better. Of course, now, you can repair the metal reeds, but it is hard to repair them. The cost of the metal reed makes it too expensive to use if you can use the pitch-band reed.

F. A. Decker, Vice-President, Textile Specialty Co., Inc., Greensboro, N. C.: The metal-back reeds can be repaired very satisfactorily. While not many mills represented here, I believe, are using them, yet many mills are using them.

Chairman: I understand that a good many mills have used them or are now using them.

Mr. Wood, have you had any experience in using the metal-back reed on high-count broadcloths?

Mr. Wood: No; on rayon, 160 by 168. The reed is all right to start with, but the dents get out of place. It ran all right when first put on, but the dents come out of place, get sprung; and we have trouble with it after a certain length of time.

Chairman: Did you find that you had fewer reed marks in the cloth when the steel reed was new than you did with the pitch-back reed?

Mr. Wood: I don't know that I found any difference. Could not see any difference.

Mr. Bolt: Another trouble I had in the reeds was that the dents were bad on the selvage. They are so firm that they would not give any, and the dents would break out at the top. Whether I had the best that I could get, I don't know.

Lining for Shuttles

Chairman: Let's go on to the next question: *"Which is the best to use in shuttles for tension, bristles or fur?"*

Mr. Henderson: Mr. Chairman, I think that depends a lot, of course, on what you are running for filling. There is no question but that you have to have fur for silk. For coarse numbers of cotton I think bristles are better, provided you use hog bristles and not fiber. For finer numbers of cotton, 40s to 45s or finer, I think fur is better.

Mr. Baker: I think that Mr. Henderson answered that question satisfactorily. On numbers up to 30s we use bristle. We get mighty good results out of fur on 43s filling.

Chairman: Do you line both sides of the shuttle with fur, on cotton?

Mr. Baker: Just one side. That is all I use.

Mr. Henderson: The shuttle is not really lined with fur; it just has a strip. Sometimes people find it good to use two vertical strips of fur—narrow strips, about one-quarter inch wide, in a vertical position.

Mr. Hammond: I have used bristles and fur and like fur much better. We had some trouble getting the bristles to stay in the shuttle. We have been using fur for the last twenty months, and I like it much better.

Mr. Henderson: I might have been a bit misleading in what I said about coarse numbers. I think that fur is mighty good for coarse numbers, but it is too expensive. Coarse, heavy filling lashes the fur out too quickly, and for that reason it is better to use bristles.

Mr. Wood: What is the proper clearance to have between the end of the filling bobbin and the mouth of the shuttle? How much clearance should you have in the mouth of your shuttle from the shuttle eye to the end of the filling bobbin?

Chairman: Can anyone answer that? Take it on cotton.

Bobbins, Shuttle Sizes

E. T. Lallis, Overseer, Ware Shoals Mfg. Co., Ware Shoals, S. C.: I have three different lengths of quills and three different lengths of shuttles. I am running some 7⅜ shuttles with 7⅜-inch quills and running some 8-inch quills. I find filling breaks are less when running 7⅜ quills and 8-inch shuttles.

Chairman: You have a ⅝-inch clearance between the quill and the shuttle?

Mr. Lallis: Yes, sir.

Mr. Henderson: It is more than that. He has the regular clearance plus the ⅝ inch. It is approximately a half inch and five-eighths. We make 40s yarns.

Mr. Lallis: You can carry that difference too far and get more filling breaks if you go too far.

Mr. Henderson: Is it the longer shuttle that helps it, or is it the shorter bobbin that helps it?

Mr. Lallis: The shorter bobbin, with the 8-inch shuttle, will have fewer filling breaks.

Mr. Henderson: The shorter bobbin in the longer shuttle?

Mr. Lallis: Yes, sir.

Controlling Jerk-Back of Filling

Chairman: Let's pass on to the next question: *"What is the best method of controlling jerk-back or jerk-in of filling?"* A great many times, when the bobbin transfers, we have a tail jerked back in for six inches, or maybe eight or ten inches, into the cloth. What has been your experience with that? What is the best method of controlling that on automatic looms?

Recommends Thread Cutter

Mr. Henderson: My experience is that there has been only one method of controlling that, and that is a certain thread cutter. That is the only thing that ever stops it, positively. That cuts the thread near the shuttle eye.

Chairman: Do you find it necessary to adjust that thread cutter according to the yarn count you are running? In other words, if you change your filling from 30s to 40s, or from 40s to 50s, would it be necessary to readjust that thread cutter?

Mr. Henderson: No, sir, there is a standard relation of the thread cutter to the box. That should take care of it.

Mr. Bishop: Lots of us haven't that thread cutter. What are we going to do if we haven't it?

Mr. Henderson: Buy it. (Laughter.)

(*Continued next week*)

TEXTILE BULLETIN

Member of
Audit Bureau of Circulations and Associated Business Papers, Inc.
Published Every Thursday By

CLARK PUBLISHING COMPANY

Offices: 118 West Fourth Street, Charlotte, N. C.

DAVID CLARK ..... *Managing Editor*
D. H. HILL, JR. ..... *Associate Editor*
JUNIUS M. SMITH ..... *Business Manager*

SUBSCRIPTION

One year, payable in advance $2.00
Other Countries in Postal Union 4.00
Single Copies ..... .10

Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Relation Of An Unsuccessful Strike To Re-employment

THIS TIME we are "stumped" and do not know what to say.

The Textile Labor Relations Board has rendered a decision saying that the strike at the Ninety-Six Cotton Mill was a failure and that because it was a failure it is not incumbent upon the mills to re-employ the strikers.

The General Strike was called September 3rd without any demand having been made upon any cotton mill. There were certain statements of its objectives published by Francis J. Gorman, the strike leader.

In a few mills most of the employees voluntarily joined the strike but they were the exception.

In some mills 25 to 50 of the employees walked out and then by intimidation and threats forced the other employees to leave their machines.

Many mills continued to operate until flying squadrons of strikers from other mills forced them to close.

Some mills operated as usual during the strike while, in others, a few operatives walked out but their places were promptly filled by unemployed persons.

When the strikers, especially those who had joined through coercion, found that they were not receiving relief which had been promised them, both from the Government and from the union treasury, thousands began to re-enter the mills and it was realized that in a few days idle mills would again be in full operation.

Just at that time President Roosevelt asked Francis J. Gorman to call off the strike and he grasped the opportunity to save his face.

The mills made no request upon anybody to call off the strike nor any agreement whatever with President Roosevelt or anybody else.

The strikers, except those whom mills refused to re-employ, because of acts of violence, returned to the mills at exactly the same wages, same hours and same work load as prior to the strike.

In no case did any mill recognize or agree to recognize the United Textile Workers, which was also one of the objectives as stated by Francis J. Gorman at the beginning of the strike.

To succeed in any undertaking a person must accomplish, at least, a major portion of the objectives, but not a single one of the stated objectives of the strike were obtained.

To fail to accomplish any of the objectives of an effort is generally considered as a failure.

The statement that the strike at the Ninety-Six Cotton Mills was a failure, is an intimation that other strikes were a success, but the learned members of the Textile Labor Relations Board failed to explain what constituted success.

Not being sufficiently intelligent to offer an explanation we present to our readers extracts from the findings in the Ninety-Six Cotton Mill Case and it may be that some can show us the road out of the wilderness.

The report said in part:

On August 31, 1934, a petition signed by 465, out of approximately 585 employees, prepared in anticipation of the proposed National Textile Strike call, was presented to the employer requesting that the mill continue in operation. This petition was circulated in the mill village by 20 employees. It was alleged, but not proved, that the employer influenced the petition. This petition was sent to the Governor of South Carolina asking protection for employees who desired to continue work, upon which the Governor instructed the sheriff of the county in which the mill is situated to swear in 200 deputies to preserve order, which was done.

On September 3, 1934, the officers of the local union of the United Textile Workers of America telegraphed its National Headquarters for advice about striking, stating that only 35 per cent of the employees were members of the union. They received a telegraphic order to strike anyway, and, fearing the loss of their union charter, 158 union member employees struck on September 6, 1934. Thirty-three of the union members remained at work, and were expelled from the union. Picket lines were formed and blocked the mill gate. Deputy sheriffs turned a water hose on the pickets and drove them back 90 feet from the gate drawing a white line beyond which the pickets did not thereafter go. The superintendent of the mill addressed the pickets on the morning of September 6th, and invited them to resume work. Messengers were also sent to the houses of the employees of the second shift in the mill village, inviting them to return to work that afternoon. The strikers were warned that their places would

be filled if they did not return. They elected to continue the strike and other workers were hired in their places. The strikers telegraphed the Governor of the State for troops, stating that they feared disorder. Troops were sent and martial law was declared. There is no evidence of disorder or violence on the part of the strikers. On the termination of the National Textile Strike, the striking employees reported for work on September 24, 1934, and again on October 1, 1934, and were told that no work was available for them. A committee from the union conferred with the management after the strike, and were told the same thing. Since September 24th, 16 of the strikers have been put back to work leaving 142 strikers still out at the time of the hearing. No new workers have been employed since the strike and the management states its willingness to give work to all of the strikers as soon as jobs are available.

Upon the foregoing findings of fact, and upon the entire record now before it, the Textile Labor Relations Board concludes that the complainants strike was unsuccessful and for that reason it is not incumbent upon the employer to reinstate the strikers in their former positions.

Progress of Child Labor

WITH 24 State Legislatures meeting this year a great drive is being made to ratify the Federal Child Labor Amendment which says "Congress Shall Have the Power to Limit, Regulate and Prohibit the Labor of Persons Under 18 Years of Age."

The Tennessee House by a vote of 72 to 24 and the Texas Senate by 19 to 10 have defeated ratification. As both houses must approve a defeat by one is a complete defeat.

In New York and Kansas the measure has been disproved by Senate Committees, which insures that it will not be ratified.

Utah and Wyoming have ratified, bringing the total number of States up to 22, and the measure has been approved by the House in both Nevada and Idaho but will probably be defeated by the Nevada Senate.

In Utah, Wyoming, Nevada and Idaho the Legislators were told that ratification was necessary in order to take 10 and 12-year-old children out of cotton mills in North Carolina, South Carolina and other Southern States.

The advocates of the Amendment have not hesitated to spread false statements and in doing so received the co-operation and assistance of the Children's Bureau of the U. S. Department of Labor who see in ratification a chance to secure the appointment of hundreds of inspectors and with them an increase of about $1,000,000 per year in their appropriation from Congress.

The advocates of the Amendment are loudly proclaiming that they have no desire to regulate farm labor, but read the following:

Miss Grace Abbott, Chief of the Children's Bureau, said while speaking before a Senate Committee:

> The need of some legal restriction on the age at which children may be employed on the farms and for some limitation of their hours of work would seem to be indicated by the facts revealed in the study.

At the Conference of Child Labor Standards held at Washington, D. C., Mrs. Julia C. Lathrop, former Chief of Children's Bureau, said:

> The great advantage for us in discussion of this English measure (the Fisher Bill) is that it shows us a way to standardize education in the interest of the future and at the same time to get rid of the one thing we have never dared attack—rural child labor.

Official Publication No. 197 of the Federal Children's Bureau, entitled "Child Labor, Facts and Figures," revised to October, 1933, says:

> If the trends of the past decade are projected into the future, it seems probable that the child labor problem will be centered more and more upon employment in agriculture, trade and various forms of domestic and personal service.
>
> Special administrative machinery and special efforts are required to enforce a child labor law for rural children in agricultural pursuits.
>
> Certificates should be required for all minors up to 18 years of age, in all occupations. More attention must be paid to those occupations that have hitherto been mainly exempt from regulations.

Mills Absorbed Rise in Costs

SCHEUER & Co., textile brokers and consultants in New York, have issued the 1934 edition of their comparative textile chart, and in analyzing the statistics they say:

> It will be seen that while cloth prices in 1934 (after deducting processing tax and NRA imposts) are higher than they were in 1932, this difference is entirely absorbed by approximately 100 per cent increase in the average price of raw cotton between the two years. Therefore, the resulting mill margins based on adjusted figures for 1934 are almost identical with the actual mill margins of 1932—a striking fact, especially in that production in both years was practically the same.

We thought that conditions were very bad in 1932, but Scheuer & Co. show that 1934 prices, while higher than in 1932, are not any more profitable.

The real trouble is that we have just as many spineless mill managers in 1934 as in 1932 and one mill manager, who does not know how to compute his costs or lacks the backbone to refuse to sell at low prices, makes the market price many other mill managers who wish to obtain reasonable profit.

There appears little opportunity to correct this situation as long as some mills persist in selling below cost.

MILL NEWS ITEMS

BURLINGTON, N. C.—May Hosiery Mills, Inc., declared an accumulation dividend of $1.25 per share on the no par $4 preferred stock, payable March 1st. After this payment arrears will be $1.50 per share, it is understood.

ROCK HILL, S. C.—The Arcade Cotton Mill, employing about 300, has posted a notice that it would discontinue operations indefinitely on February 8th.

The notice, signed by Superintendent D. R. Broome, said:

"Due to the high cost of NRA and the processing tax, the cloth market has declined to a point where we find it impossible to run. We shall close down Friday night, February 8th, indefinitely."

RICHMOND, VA.—Plans for the establishment of a $500,000 plant for the dyeing and printing of rayons have been announced by Conrad Hirzel of Fair Lawn, N. J., secretary of the Textile Dyeing & Printing Corporation of America, Inc.

The plant, which will occupy the former Simmons mattress plant at Third and Hull streets, South Richmond, will begin operations in about three or four months. Only a legal technicality over the title to the property remains to be straightened out, Mr. Hirzel said.

CLINTON, S. C.—The annual stockholders' meeting of the Stutz-Hadfield Silk Corporation heard Secretary-Treasurer A. J. Milling give a general statement of the corporation. A motion was later offered and unanimously adopted calling on the directors to furnish the stockholders a detailed audit on the financial status of the corporation by March 1st, and that the meeting adjourn to reconvene on March 12th for a consideration of the report. The officers when asked stated that they had no plans or recommendations to make as regards the future operation of the plant. C. W. Stone, D. E. Tribble and J. P. Prather were elected to represent the preferred stockholders; W. J. Hadfild and Sol Stuzt were elected to represent the common stockholders on the board of directors. The former board consisted of C. W. Stone, A. J. Milling, John H. Young, W. J. Hadfield and H. S. Finley.

After the stockholders' meeting the new board met and elected the following officers: C. W. Stone, president; W. J. Hadfield, vice-president; D. E. Tribble, treasurer, and J. P. Prather, secretary.

BELMONT, N. C.—Stockholders of the Eagle Yarn Mills and the Stowe Spinning Company held their annual meetings at the mill offices. Re-election of officers was a feature of the session. A dividend of 2 per cent, semi-annual, was paid.

Officers of the Eagle Yarn Mill are W. B. Puett, president; S. P. Stowe, vice-president; J. W. Stowe, secretary-treasurer. Additional directors, R. L. Stowe, A. C. Lineberger, F. P. Hall and John M. Scott.

The Stowe Spinning Company offiicials are: S. P. Stowe, president; W. B. Puett, vice-president; R. L. Stowe, secretary-treasurer. Additional directors are A. C. Lineberger, John M. Scott, F. P. Hall and R. L. Stowe, Jr.

Other dividends recently paid by mills here include: Crescent Spinning, 2 per cent; Perfection, 3 per cent; Sterling Spinning, 2 per cent; Acme Spinning, 3 per cent.

MILL NEWS ITEMS

MARION, N. C.—The Cross Cotton Mill, one of the growing industries, is making extensive improvements to its plant with a view to meeting the demand for a new and higher grade yarn in the future.

The Cross Mill has been engaged in the manufacture of a heavy double corded yarn exclusively and the increasing demand for that class of goods made it necessary to expend approximately $125,000 for improvements on the plant and machinery last year.

Now the possibilities for business in a new line has led to additional improvements with a view to supply the trade with a fine combed yarn, it has been announced by a member of the firm.

Fine Goods Mills Favor Production Control

Resolutions urging maintenance of cotton textile code provisions designed to adjust over-capacity in the industry and recording their opposition to modification of codes without consent of the affected industries were adopted by mill executives representing 90,666 looms in the fine goods division of the cotton industry.

Meeting in the offices of the Cotton-Textile Institute, New York, the group discussed phases of the industry's surplus machinery problem affecting fine cotton goods manufacturers and appointed a committee including G. Edward Buxton, New York City, chairman; John McMahon, Fall River, Mass.; Robert Henry, Greenville, S. C.; Frank Neild, New Bedford, Mass.; Stuart W. Cramer, Jr., Cramerton, N. C., and David Duncan, Providence, R. I., to conduct an exhaustive study into the extent and effects of surplus and obsolete equipment in the fine goods division. The committee's report will be the basis of specific recommendations to the Cotton Textile Code Authority.

ADJUSTMENT OF OVER-CAPACITY

"Whereas, the provisions in the cotton textile code aimed at the correction of over-capacity, which still leave a substantial margin between available capacity and available demand, have encouraged the spreading of employment and healthier competitive conditions; and

"Whereas, the fine cotton goods industry has for several months experienced a lack of normal demand and prices in most instances failing to recover cost;

"Therefore be it resolved, That these provisions in the cotton textile code should be maintained and availed of by the Code Authority in co-operation with the NRA."

MODIFICATION OF CODES

"Whereas, the modification by executive order of codes of fair competition without the consent of the industry affected is directly contrary to the idea of self-regulation by industry and the initiation by industries of proposals for Government approval, and contrary to the underlying theory of the National Industrial Recovery Act;

"Therefore be it resolved, That the fine cotton goods group records itself in opposition to any procedure by decree or executive order which would have the effect of destroying the partnership relation between industry and Government."

A third resolution pledging the co-operation of fine cotton goods manufacturers in observance of National Cotton Week, May 6th to May 11th, read as follows:

Direct-Current Transmission

(*Continued from Page 9*)

One feature of such a network is that, if it is tuned for a certain definite current and if it receives this current, constant potential results at the output terminals. On the other hand, if it is supplied from a constant potential bus, constant current will be obtained at the terminals. Neglecting the losses in the reactors and condensers, the power factor on both sides of the network is equal, but of opposite value.

No transformers have been used in the installation made in the Schenectady plant, but, in a commercial installation, it is probable that transformers would be used at both ends of the line—at the sending end for increasing the voltage to that point desired, and at the receiving end for reducing the voltage to suit that of the receiving system.

The rectifier end of this network connected to a constant-potential system will furnish a sufficient voltage to cause the full-load current of the direct-current system to flow. Thus, if a short circuit of low resistance exists close to the rectifier, the voltage furnished by the rectifier will be very low—only sufficient to overcome the low resistance of the short circuit. The power flow, then, will be reduced; and, if the resistance is of very low value, the voltage will collapse to practically zero.

At the receiving end of the line, or the inverter, the tubes being arranged to pass current in one direction only, will operate as an inverter as long as constant current is received from the rectifier. Failing to receive this constant current, the inverter becomes a rectifier and draws full-load current at low voltage from the alternating-current system to which it is connected. The polarity of this current will be reversed, however.

If a short circuit occurs on the direct-current line, and if the constant current of the system is 200 amperes and the regulation of the line is 10 per cent, then the current flow into the short circuit will be about 20 amperes. The voltage on the direct-current line drops to that point necessary to cause 20 amperes to flow in the short circuit.

As soon as the short circuit is removed, normal current flows in the normal direction, the rectifier furnishes its share of the current, the inverter receives the current, and the current is inverted and furnished to the receiver system as constant-potential alternating current.

If, when the line is operating under normal conditions, the cable is short-circuited by means of a single-pole knife-blade switch, the voltmeter reading drops practically to zero but the current remains constant. If the switch is then opened, the voltage returns very promptly and at all times the current remains constant.

It remained for the development of the vacuum tube and of electronic devices of various kinds—of Phanotrons and Thyratrons of large capacity—to make possible the new tools which can be used to advantage in improved distribution of power.

INDEX TO ADVERTISERS

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

Two Carded Yarn Code Amendments Approved

Two amendments to the cotton textile code section governing the merchandising of carded cotton yarn have been approved by the National Industrial Recovery Board.

The trade practice rule requiring selling agents to provide mills with the names of all prospective customers was amended to waive this requirement "where the performance of the contract is guaranteed by the selling agent."

The rule permitting a 2 per cent cash discount for payment by the tenth of the month following a sale was changed so that in sales made on the basis of a 2 per cent discount, shipment on or after the 25th of the month could be dated as of the first of the following month.

Begin Rayon Production From Slash Pine

Savannah, Ga. — The Savannah Pine and Pulp Laboratory, barring unexpected mechanical difficulties, will begin turning out rayon manufactured from Georgia pine within a few days. With all of the equipment necessary for the manufacture of rayon installed, R. H. Rasch, who is head of the department of rayon pulp, will soon begin the manufacture of it in small quantities for tests.

COTTON GOODS

New York.—Except for some further weakness in print cloths, cotton goods markets were generally steady during the week. Some buyers bought print cloths rather freely at the end of the week at the new prices and the price situation strengthened. Most sellers steadily resisted the lower prices. The lack of buying in recent weeks is generally ascribed to the pending "gold clause" decision from the Supreme Court. Many merchants feel that the markets are ready to go ahead as soon as the decision is known.

The 80x60 carded broadcloths rebounded from a low of 7c touched during the week on fair sales. Later business, larger in volume than that at even money, was put through at 7⅛c. The 100x60 carded broadcloths, which had been very dull for many weeks, shook off their lethargy long enough for substantial transactions to be put through at 8¾c, which price most sellers were unwilling to meet, holding rather at 8⅞c.

Narrow sheetings showed little change, with a steady flow of small orders on a wide range of constructions being booked throughout the week. Clothing twills were still in very light supply, although as the advance occasioned by the spot squeeze slackened mills began to find more quick goods.

In the fine goods markets prices held steady on spurts of activity, none of which was sufficiently well grounded to bring a genuine covering movement. The uncertainty as to whether the proposed curtailment program, which has been handled on an entirely voluntary basis and is, therefore, difficult to put over, will actually go into effect produced some worrying on the part of buyers and a little nervousness in some selling quarters. The tone was described as a little shaky at the week-end, but those buyers who were around attempting to take advantage of the shakiness to pick up bargains against their quick needs found prices were holding firmly enough.

Print cloths, 27-in., 64x60s	4¾
Print cloths, 28-in., 64x60s	4⅞
Gray goods, 38½-in., 64x60s	6½
Gray goods, 39-in., 80x80s	9
Gray goods, 39-in., 68x72s	7½
Brown sheetings, 3-yard	10
Brown sheetings, standard	10⅝
Tickings, 8-ounce	19
Denims	15
Dress ginghams	16½
Brown sheetings, 4-yard, 56x60	8¼
Staple ginghams	9½
Standard prints	7½

YARN MARKET

Philadelphia, Pa.—Trading in cotton yarns continued very slow last week. There was little change in the price situation and market factors were inclined to regard prices as having stabilized for the present at current levels. Inquiry was light and such business as was offered was usually lower than spinners would accept.

In expectation of a stiffening in the market for carded and combed yarns, some of this week's quotations were given with the distinct understanding they would not be binding on seller after March 1st. In fact, since buying has been so generally deferred and manufacturers, although perhaps not so busily engaged as late last year, have drawn heavily on their stocks, the yarn trade looks confidently to a period of demand for spot yarns.

Most observers report that deliveries are satisfactory. As to combed peeler yarns, deliveries have been active right along since early last month. As to carded yarns, deliveries recently became irregular in the case of some trades, but currently there has been some improvement.

In some quarters it is asserted that prices show a tendency to stiffen. Ordinary quality two-ply carded warps, for example, are reported selling at 30 to 30½ cents for 20s and 35 to 35½ cents for 30s. Producers also have become firmer on low grade waste yarns, partly because the call for yarn deliveries in this department has improved, but chiefly due to higher prices commanded by cotton waste in the South lately.

Weaving trades which have been buying most of the yarn are automobile and furniture covering, towel, men's wear tape and narrow fabric and carpet. The largest weaver of automobile fabrics is busy and its consumption of high quality weaving numbers is large; certain spinners specializing in this yarn report being comfortably sold ahead for the next couple of months, part of this being also for furniture covering backing.

Business in mercerized yarns has not been as active, but has been better than in the gray yarns. Deliveries have slowed down to some extent and new orders have declined. Prices are generally steady and no changes in quotations were noted last week.

Southern Single Warps

10s	27 --
12s	27½--
14s	28 --
16s	28½--
20s	29½--
26s	32½--
30s	34½-35
40s	40 -41

Southern Single Skeins

8s	26½--
10s	27 --
12s	27½--
14s	28 --
20s	29½--
26s	32½--
30s	34½--
36s	38 --
40s	40 -41

Southern Two-Ply Chain Warps

8s	27 --
10s	27½--
12s	28 --
16s	29 --
20s	30 --
24s	32 --
26s	33 --
28s	34 --
30s	34½-35
30s ex.	35½-36½
40s	41 -42

Southern Two-Ply Skeins

8s	27 --
10s	27½--
12s	28 --
14s	28½--
16s	29 --
20s	29½-30
24s	32 --
26s	33 --
28s	34 --
30s	34½-35
40s	41 -42
40s ex.	43 -44
50s	50 --

Duck Yarns, 3, 4 and 5-Ply

8s	27 --
10s	27½--
12s	28 --
16s	29 --
20s	30 --

Carpet Yarns

Tinged carpets, 8s, 3 and 4-ply	22½-24½
Colored strips, 8s, 3 and 4-ply	26½--
White carpets, 8s, 3 and 4-ply	26½-27½

Part Waste Insulating Yarns

8s, 1-ply	22 --
8s, 2, 3 and 4-ply	22½--
10s, 2, 3 and 4-ply	23 -23½
12s, 2-ply	24 --
16s, 2-ply	27 --
20s, 2-ply	28½--
30s, 2-ply	34 --
36s, 2-ply	38 --

Southern Frame Cones

8s	26½--
10s	27 --
12s	27½--
14s	28 --
16s	28½--
18s	29 --
20s	29½--
22s	30½--
24s	31½--
26s	32½--
28s	33½--
30s	34½--
40s	41 --

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for Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information, service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

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American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York City. Sou. Office and Warehouse, 301 E. 7th St., Charlote, N. C., Paul Haddock, Sou. Mgr.

American Enka Corp., 271 Church St., New York City. Sou. Rep., R. J. Mebane, Asheville, N. C.

Arnold, Hoffman & Co., Inc., Providence, R. I. Frank W. Johnson, Sou. Mgr., Box 1268, Charlotte, N. C. Sou. Reps., Robert E. Buck, Box 904, Greenville, S. C.; Harold T. Buck, Box 1953, Atlanta, Ga.; P. Dupree Johnson, Box 2197, Atlanta, Ga.; W. Chester Cobb, 408 Randall St., Greenville, S. C.

Ashworth Bros., Inc., Charlotte, N. C. Sou. Offices, 44-A Norwood Place, Greenville, S. C.; 215 Central Ave., S. W., Atlanta, Ga.; Texas Rep., Textile Supply Co., Dallas, Tex.

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Brown & Co., D. P., Philadelphia, Pa. Sou. Rep., N. W. Pyle, Box 834, Charlotte, N. C.

Breuer Electric Mfg. Co., 852 Blackhawk St., Chicago, Ill. N. C. and S. C. Rep., Engineering Sales Co., 601 Builders' Bldg., Charlotte, N. C.

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Jacobs Mfg. Co., E. H., Danielson, Conn. Sou. Rep., W. Irving Bullard, Treas., Charlotte, N. C. Mgr. Sou. Service Dept., S. B. Henderson, Greer, S. C.; Sou. Distributors, Odell Mill Supply Co., Greensboro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Shelby Supply Co., Shelby, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Industrial Supply Co., Clinton, S. C.; Carolina Supply Co., Greenville, S. C.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C., and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

Johnson, Chas. B., Paterson, N. J. Sou. Rep., Carolina Specialty Co., Charlotte, N. C.

Keever Starch Co., Columbus, O. Sou. Office, 1200 Woodside Bldg., Greenville, S. C., Daniel H. Wallace, Sou. Agt. Sou. Warehouses, Greenville, S. C., Charlotte, N. C., Burlington, N. C. Sou. Rep., Claude B. Iler, P. O. Box 1383, Greenville, S. C.; Luke J. Castile, 515 N. Church St., Charlotte, N. C.; F. M. Wallace, 2027 Morris Ave., Birmingham, Ala.

Kewanee Machinery & Conveyor Co., Kewanee, Ill. N. C. and S. C. Rep., Engineering Sales Co., 601 Builders Bldg., Charlotte, N. C.

Lyon Metal Products, Inc., Eurora, Ill. N. C. and S. C. Rep., Engineering Sales Co., 601 Builders Bldg., Charlotte, N. C.

Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc., Passaic, N. J. Sou. Offices and Reps., The Manhattan Rubber Mfg. Div., 1196 N. Fifth Ave., Birmingham, Ala.; Alabama—Anniston, Anniston Hdw. Co.; Birmingham, Crandall Eng. Co. (Special Agent); Birmingham, Long-Lewis Hdw. Co.; Gadsden, Gadsden Hdw. Co.; Huntsville, Noojin Hdw. & Supply Co.; Tuscaloosa, Allen & Jemison Co., Montgomery, Teague Hdw. Co. Florida—Jacksonville, The Cameron & Barkley Co.; Miami, The Cameron & Barkley Co.; Tampa, The Cameron & Barkley Co. Georgia—Atlanta, Amer. Machinery Co.; Columbus, A. H. Watson (Special Agent); Macon, Bibb Supply Co.; Savannah, D. DeTreville (Special Agent). Kentucky—Ashland, Ben Williamson & Co.; Harlan, Kentucky Mine Supply Co.; Louisville, Graft-Pelle Co. North Carolina—Asheville, T. S. Morrison & Co.; Charlotte, Charlotte Supply Co.; Durham, Dillon Supply Co.; Elizabeth City, Elizabeth City Iron Works & Supply Co.; Fayetteville, Huske Hwe. House; Goldsboro, Dewey Bros.; High Point, Koster Machinery Co., and Beeson Hwe. Co.; Lenoir, Bernhardt-Seagle Co.; Gastonia, Gastonia Belting Co.; Raleigh, Dillon Supply Co.; Wilmington, Wilmington Iron Works; Shelby, Shelby Supply Co.; Winston-Salem, Koster Machinery Co. South Carolina—Anderson, Sullivan Hdw. Co.; Charleston, The Cameron & Barkley Co.; Clinton, Industrial Supply Co.; Columbia, Columbia Supply Co.; Greenville, Sullivan Hdw. Co.; Sumter, Sumter Machinery Co.; Spartanburg, Montgomery & Crawford. Tennessee—Chattanooga, Chattanooga Belting & Supply Co.; Johnson City, Summers Hdw. Co.; Knoxville, W. J. Savage Co.; Nashville, Buford Bros., Inc. Salesmen, E. H. Olney, 191 Gertrude St., Alta Vista Apts., Knoxville, Tenn.; C. P. Shook, Jr., 1031 North 30th St., Birmingham, Ala.; B. C. Nabers, 3619 27th Place S., Birmingham, Ala.; R. T. Rutherford, 1513 Harding Place, Charlotte, N. C.

Maxwell Bros., Inc., 2300 S. Morgan St., Chicago, Ill. Sou. Reps., C. R. Miller, Sr., and C. R. Miller, Jr., Macon, Ga.; C. B. Ashbrook and H. Ellis, Jasper, Fla. Sou. Offices and Plants at Macon and Jasper.

National Oil Products Co., Harrison, N. J. Sou. Reps., R. B. MacIntyre, 801 E. Blvd., Charlotte, N. C.; G. H. Small, 799 Argonne Ave., N. E., Atlanta, Ga. Warehouse, Chattanooga, Tenn.

National Ring Traveler Co., 357 W. Exchange St., Providence, R. I. Sou. Office and Warehouse, 131 W. First St., Charlotte, N. C. Sou. Agt., C. D. Taylor, Gaffney, S. C. Sou. Reps., L. E. Taylor, Box 272, Atlanta, Ga.; Otto Pratt, Gaffney, S. C.; H. B. Askew, Box 272, Atlanta, Ga.

Neumann & Co., R., Hoboken, N. J. Direct Factory Rep., Greenville Belting Co., Greenville, S. C.

New Departure Bearing Co., Bristol, Conn. Sou. Rep., E. W. Potter, 913 First Nat. Bk. Bldg., Charlotte, N. C.

New England Bobbin & Shuttle Co., Nashua, N. H. Southern Representative, D. C. Ragan, High Point, N. C.

N. Y. & N. J. Lubricant Co., 292 Madison Ave., New York City. Sou. Office, 601 Kingston Ave., Charlotte, N. C., Lewis W. Thomason, Sou. Dist. Mgr. Sou. Warehouses, Charlotte, N. C., Spartanburg, S. C., New Orleans, La., Atlanta, Ga., Greenville, S. C.

Norma-Hoffmann Bearings Corp., Stamford, Conn. Sou. Rep., E. W. Lawrence, 1841 Plaza, Charlotte, N. C.

Orleans Bobbin Works, Newport, Vt. N. C. and S. C. Rep., Engineering Sales Co., 601 Builders Bldg., Charlotte, N. C.

Osborn Mfg. Co., Materials Handling Div., 5401 Hamilton Ave., Cleveland, O. N. C. and S. C. Rep., Engineering Sales Co., 601 Builders Bldg., Charlotte, N. C.

Onyx Oil & Chemical Co., Jersey City, N. J. Sou. Rep., Edwin W. Klumph, 1716 Garden Terrace, Charlotte, N. C.

Perkins & Son, Inc., B. F., Holyoke, Mass.

Rhoads & Sons, J. E., 35 N. Sixth St., Philadelphia, Pa. Factory and Tannery, Wilmington, Del.; Atlanta Store, C. H. Mitchell, Mgr.

Robinson & Son Co., Wm. C., Dock and Carolina Sts., Baltimore, Md. Sou. Office, Charlotte, N. C., B. D. Heath, Sou. Mgr. Reps., Ben F. Houston, Charlotte, N. C.; Fred W. Smith, Charlotte, N. C.; H. J. Gregory, Charlotte, N. C.; A. R. Brand, Belmont, N. C.; Porter H. Brown, No. 6 Bellflower Circle, Chattanooga, Tenn.; Jasper M. Brown, Charlotte, N. C.; C. M. Greene, 1101 W. Market St., Greensboro, N. C.

Rohm & Haas, Inc., Philadelphia, Pa. Sou. Rep., P. H. Del Plaine, 1109 Independence Bldg., Charlotte, N. C.

Saco-Lowell Shops, 147 Milk St., Boston, Mass. Sou. Office and Repair Depot, Charlotte, N. C., Walter W. Gayle, Sou. Agent; Branch Sou. Offices, Atlanta, Ga., John L. Graves, Mgr.; Greenville, S. C.

Seydel Chemical Co., Jersey City, N. J. Sou. Rep., Harold P. Goller, Greenville, S. C. Francis B. Boyer, Lowell, Mass.

Seydel-Woolley Co., 748 Rice St. N. W., Atlanta, Ga.

Sherwin-Williams Co., The, Cleveland, O. Sou. Reps., E. H. Steger, 213 W. First St., Charlotte, N. C.; R. B. Olney, 158 E. Main St., Spartanburg, S. C.; W. O. Masten, 2308 S. Main St., Winston-Salem, N. C.; W. B. McLeod, 246 W. Freemason St., Norfolk, Va.; G. N. Jones, 207 Glascock St., Raleigh, N. C.; John Limbach, 233 Peachtree St., Atlanta, Ga.; D. S. Shimp, 3 Cummins Sta., Nashville, Tenn. Warehouses at Philadelphia, Charlotte, Spartanburg, Atlanta, Columbus, Nashville, Newark and Boston.

Sipp-Eastwood Corp., Paterson, N. J. Sou. Rep., Carolina Specialty Co., Charlotte, N. C.

Socony-Vacuum Oil Co., Inc., Southeastern Div. Office, 1602 Baltimore Trust Bldg., Baltimore, Md. Warehouses: Union Storage Warehouse Co., 1000 W. Morehead St., Charlotte, N. C.; Textile Warehouse Co., 511 Rhett St., Greenville, S. C.; South Atlantic Bonded Warehouse Co., Greensboro, N. C.; New South Express Lines, Columbia, S. C.; Terminal Storage Corp., 317 N. 17th St., Richmond, Va.; Taylor Transfer Co., 102 Boush St., Norfolk, Va.

Soluol Corp., 123 Georgia Ave., Providence, R. I. Sou. Rep., Eugene J. Adams, Terrace Apts., Anderson, S. C.

Sonoco Products Co., Hartsville, S. C.

Southern Spindle & Flyer Co., Charlotte, N. C.

Southern Textile Banding Mill, Charlotte, N. C.

Standard Conveyor Co., N. St. Paul, Minn. N. C. and S. C. Rep., Engineering Sales Co., 601 Builders Bldg., Charlotte, N. C.

Stanley Works, The, New Britain, Conn. Sou. Office and Warehouse, 553 Murphy Ave., S. W., Atlanta, Ga., H. C. Jones, Mgr.; Sou. Rep., Horace E. Black, P. O. Box 424, Charlotte, N. C.

Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa. Sou. Office and Plant, 631 E. McBee Ave., Greenville, S. C., H. E. Littlejohn, Mgr. Sou. Reps., W. O. Jones and C. W. Cain, Greenville Office.

Stein, Hall & Co., Inc., 285 Madison Ave., New York City. Sou. Office, Johnston Bldg., Charlotte, N. C., Ira L. Griffin, Mgr.

Sterling Ring Traveler Co., 101 Lindsey St., Fall River, Mass. Sou Rep., Geo. W. Walker, P. O. Box 78, Greenville, S. C.

Stewart Iron Works, Cincinnati, O. Sales Reps., Jasper C. Hutto, Box 43, Greensboro, N. C.; Peterson-Stewart Fence Construction Co., 241 Liberty St., Spartanburg, S. C.

Stone, Chas. H., Stone Bldg., Charlotte, N. C.

Stonhard Co., 401 N. Broad St., Philadelphia, Pa. W. E. Woodrow, Sou. Dist. Mgr., 552 Murphy Ave., S. W., Atlanta, Ga.

Terrell Machine Co., Charlotte, N. C. E. A. Terrell, Pres. and Mgr.

Textile-Finishing Machinery Co., Providence, R. I. Sou. Office, Johnston Bldg., Charlotte, N. C.

Textile Shops, The, Franklin St., Spartanburg, S. C. E. J. Eaddy, Sec. and Treas.

U. S. Bobbin & Shuttle Co., Manchester, N. H. Sou. Plants, Monticello, Ga. (Jordan Div.); Greenville, S. C.; Johnson City, Tenn. Sou. Reps., L. K. Jordan, Sales Mgr., Monticello, Ga.

Universal Winding Co., Providence, R. I. Sou. Offices, Charlotte, N. C., Atlanta, Ga.

U. S. Ring Traveler Co., 159 Aborn St., Providence, R. I. Sou. Reps., William W. Vaughan, P. O. Box 792, Greenville, S. C.; Oliver B. Land, P. O. Box 158, Athens, Ga.

Veeder-Root Co., Inc., Hartford, Conn. Sou. Office, Room 1401 Woodside Bldg., Greenville, S. C., Edwin Howard, Sou. Sales Mgr.

Victor Ring Traveler Co., Providence, R. I., with Southern office and stock room at 137 S. Marietta St., Gastonia, N. C. Also stock room in charge of B. F. Barnes, Jr., Mgr., 1733 Inverness Ave., N. E., Atlanta, Ga.

Viscose Co., Johnston Bldg., Charlotte, N. C., Harry L. Dalton, Mgr.

WAK, Inc., Charlotte, N. C. W. A. Kennedy, Pres.; F. W. Warrington, field manager.

Whitin Machine Works, Whitinsville, Mass. Sou. Offices, Whitin Bldg., Charlotte, N. C., W. H. Porcher and R. I. Dalton, Mgrs.; 1317 Healey Bldg., Atlanta, Ga. Sou. Reps., M. P. Thomas, Charlotte Office; I. D. Wingo and M. J. Bentley, Atlanta Office.

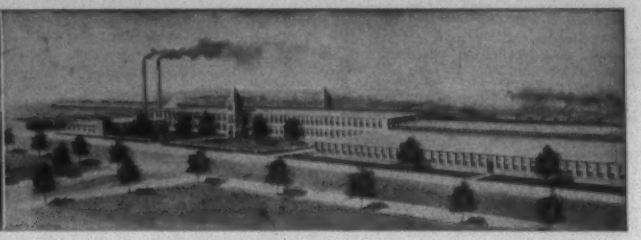
Whitinsville Spinning Ring Co., Whitinsville, Mass. Sou. Rep., W. L. Nicholson, 2119 Conniston Place, Charlotte, N. C.

Wolf, Jacques & Co., Passaic, N. J. Sou. Reps., C. R. Bruning, 1202 W. Market St., Greensboro, N. C.; Walter A. Wood Supply Co., 4517 Rossville Blvd., Chattanooga, Tenn.

Hand Knitting Yarns Of Spun Rayon

Yarns suitable for hand knitting, composed largely of spun rayon staple fiber are now being prepared for the market. These, the product of Clifton Yarn Mills, are 75 per cent staple fiber from Du Pont Rayon Company and 25 per cent alpaca.

These yarns have exceptional softness and the blend of the two fibers gives a richness to the colors. The alpaca is a natural brown or black, the dye being applied to the rayon staple. There are about a dozen colors available. The yarns are prepared in two sizes 2-12 and 4-16 worsted numbering system.



Visiting The Mills

By Mrs. Ethel Thomas Dabbs (Aunt Becky)

ALBEMARLE, N. C.

TWO LARGE YARN MILLS OF MORE THAN 150,000 SPINDLES, AND TWO LARGE HOSIERY MILLS WITH AROUND 170 FULL FASHIONED AND 185 CIRCULAR KNITTING MACHINES.

Efird Manufacturing Company and Wiscassett Mills Company have only a few feet separating them and extend a mile or more along the railroad. There are no nicer, cleaner or more modern yarn mills to be found in the textile industry. The mills have recently been repainted inside, and the machinery is about all new and in excellent condition.

EFIRD MFG. CO.

Efird Manufacturing Company has nearly 60,000 spindles on carded and combed yarns, of such splendid quality that there is little trouble in disposing of it. The genial president, A. K. Winget, escorted me over the mill and in all that "acreage" of spinning we could find only two ends down.

I noticed that Mr. Winget had a pleasant greeting for every operative who caught his eye, and the happy contentment of everybody was reflected in their faces. People at these mills have many of them been here for thirty or more years, and are convinced that Albemarle is one among the finest of mill towns.

Seeing mills and mill people like those in Albemarle makes one proud to be a North Carolinian. I couldn't help thinking of the difference in mill people now and twenty-five years ago. Then, personal appearance was a secondary consideration. It did not seem important to keep wholesomely clean and well groomed.

Now, mill girls everywhere take pride in their appearance. The majority have permanent waves, and are the pictures of health and happiness. It is no longer considered a disgrace to work in a cotton mill. Rather, it is an honor and a pleasure. Short hours with good pay—and the work so delightfully easy on modern machinery.

ADVANTAGES AND ATTRACTIONS

Mrs. Swearingen, village nurse, looks after the health and well-being of the operatives of Efird Manufacturing Company and their families. The homes are exceptionally nice and conveniently located. There are two bands. The senior band has 22 pieces, and when they play—oh, boy! folks sit up and take notice. Then there is a beginner's band that bids fair to win laurels in the future.

There are good schools for the mills, and splendidly equipped playgrounds together where many interesting contests are staged.

OFFICIALS AND KEY MEN

A. K. Winget, president, came here a few years ago from Gastonia, where he was held in high esteem. D. A. Bruton is secretary (I did not meet him). H. L. Horton, treasurer, has been with the Efird Mill Company probably ever since it was organized—and for many good reasons. He is dependable and worthy of every trust. M. L. Rogers is the friendly and courteous superintendent.

In Mills Nos. 1, 2 and 3, E. B. Talbert is overseer carding and N. F. Thompson, overseer spinning. In Nos. 4 and 5, H. W. Rogers is carder and J. B. Talbert, spinner; W. N. Pence, master mechanic.

It costs $1,000 a day for processing tax to run Efird Mill. It is a miracle that mills run at all when one considers the expense.

OPERATIVES FROM PALESTINE

Now, what do you think of that? Yes, there is a suburb of Albemarle called "Palestine." No one seems to know how it got the same, but it is so called and is well known.

When Cyclone Mack held a series of meetings here once he was trying to find out where the visitors were from, and had them stand up and give their home address. When one man stood up and said, "I am from Palestine," the Reverend Mack almost jumped from the pulpit and shouted: "Glory! All my life I've wanted to see somebody from Palestine! Come up, brother, and take a front seat."

WISCASSETT MILLS CO.

These are called Nos. 1, 2, 4 and 6. Nos. 3 and 5 got lost in the shuffle—or rather was merged into the others. Machinery changed and arranged more conveniently; everything new and modern.

These mills have been painted inside and the village houses inside and out. The mill toilets are as nice as any hotel can boast of. All electric wires are new and every safety device known has been added to the equipment.

The grounds about the offices of all the Albemarle Mills are truly pretty with evergreen shrubbery and winding walks. In spring and summer pretty flowers bloom in profusion in village yards and potted plants adorn the front porches. It would be hard to find a more beautiful place than these villages at their best.

Wiscassett Mills Company uses around 2,500 bales of cotton per year and so, they must pay $50,000 processing tax! You folks that are always howling about the mills getting rich—how do you figure? How they can run at all is one of the mysteries. Some have closed down for good—the big Loray Mill at Gastonia and the High Shoals Mill at High Shoals, closed down for good—all because agitators and strikes made conditions impossible. Thank the Giver of all good, people at Albemarle have better sense than to fool with that poisonous element bent on destruction. They are good citizens, loyal and dependable and worthy of highest respect.

What is to become of the thousands who depended on

Loray and High Shoals Mills for a living? Not one in twenty had anything to do with the strike, only as they were compelled by outsiders. Read Mr. Clark's editorial in last week's Bulletin.

Wiscassett Mills manufacture single and ply carded and combed yarns. Crochet yarns natural and bleached, put up in attractive boxes of one dozen hanks, is one of the specialties.

All the nice things found at any mill are here, and a mighty nice bunch of officials and key men.

Am going back there when I can catch Mr. J. A. Groves, secretary and treasurer, at home.

T. M. Denning has been general superintendent for many years; his son, W. F. Denning, is superintendent. He has been here since he was three years old, beginning work when very young—but it did not hurt him. J. R. Doby and C. L. Rogers are assistant superintendents—both pleasant gentlemen.

Overseers are: No. 1, J. A. Stoker, carder, and R. E. Holt, spinner. In No. 2, Henry Lowder, carder, and J. K. Russell, spinner. In No. 4, J. B. Long, carder, and Curtis L. Holt, spinner. In No. 6, J. D. Griggs, carder, and D. A. Fry, spinner. On second shift, O. J. Hall is carder and C. R. Doby, spinner. W. G. Young is master mechanic.

TALLADEGA, ALA.

BEMIS BROS. BAG CO.—BEMISTON

Some folks don't like policemen, but I do—especially such nice ones as those who guard the entrance to Bemiston, village beautiful and the big mill.

"Hold up, lady. Who are you, where are you going and whom do you wish to see?" asked a good looking officer, and he came to the car and looked it over inside and out, while I took a good look at him.

"Wish to see Mr. R. A. Wells, manager of the mill," I replied, handing him my card and one of my best smiles. I'll never know whether it was the card or the smile that pulled the trick, but I truly could not have been treated finer if I had been Mrs. Roosevelt.

"All right. Just let me call him and make an appointment for you." And that is just what he did. By the time I reached the mill Mr. Wells was ready for me, and I had a very, very pleasant visit, and secured 47 subscriptions.

This is one of the prettiest spots in Alabama. The village is beautifully designed and the homes are attractive styles and kept nicely painted. The streets are paved, and there is a lot of shrubbery and expansive lawns.

OFFICIALS AND KEY MEN

J. S. Bemis is president; R. A. Wells, manager; Leslie E. Lane, assistant manager; H. B. Bergfield, superintendent; W. B. Garner, carder; J. F. Adams, spinner; A. W. Herring, weaver; Hope Blankenship, finisher; L. L. Mitchum, master mechanic; H. G. Zehr, plant engineer.

Second hands—Malcomb Jones, carding; F. C. Horn, spinning; W. J. Peters, weaving, and Charlie Reese, in the shop.

SWEPSONVILLE, N. C.

VIRGINIA COTTON MILLS

This picturesque spot is five miles from Graham, on Southern Railway. One year ago exactly, when "Uncle Hamp" and I visited this place, we were entranced with the beauty of the ice on the mill dam just above the bridge. At tha ttime the ice, frozen as it fell over the dam, formed into all kinds and shapes resembling exquisitely carved marble monuments. This time there was plenty of ice, but nothing to compare with the scene a year ago.

The Virginia Cotton Mills make a beautiful dress goods—cotton and rayon. The color is concrete and rests right on the ground, so there is no shaking nor danger of collapsing.

This is one mill that has a lady president; she is Mrs. Minnie Baker, of Raleigh. Walter M. Williams, of Burlington, is secretary; Lynn B. Williamson, of Burlington, is vice-president and treasurer; J. R. Copeland is general superintendent. Mr. Williamson and Mr. Copeland are both officials of the E. M. Holt Plaid Mills, Inc., of Burlington.

H. D. Mullins is plant superintendent; Edwin H. Williamson, assistant; J. A. Spivey, overseer warping and slashing; W. H. Marshall, in charge of yreparation; L. J. Ball, designer; J. C. Thompson, overseer drawing-in; B. C. Durham, overseer the cloth room; L. G. Squires, second overseer weaving; M. B. Odell, overseer weaving; J. F. Eastridge, overseer carding and spinning; George Isley, overseer carding and spinning, first shift; Clyde Murray, overseer dyeing; Chas. Beal, master mechanic. There are several others whom I did not see.

J. R. Nicks is office manager, assisted by Miss Matilda Nelson, Wayne Thompson is paymaster.

SYCAMORE, ALA.

AVONDALE MILLS—SYCAMORE PLANT

Speaking of loyalty—this is the place where they live it. This is where the operatives volunteered to quit using tobacco in the mill, because tobacco stains had made the company lose a big sum of money. Mr. Hugh Comer will never forget that splendid and unusual evidence of the sympathy and good will of his people at Sycamore, more especially since no one asked them to make such a sacrifice.

The mill is very attractive inside and out. O. H. Dunn, superintendent, is a brother of the superintendent of the Sylacauga plants. The general superintendent of all the Avondale Mills lives in a lovely home at Sycamore—Mr. Zeb Mangum.

V. A. Mims is general overseer; E. J. Drawhorn, second hand in carding; George Mims, second hand in spinning; B. A. Williams, overseer winding; C. O. White, second overseer on second shift; F. F. Wright, J. M. Dodd, E. F. Liner and James Stewart, live-wire section men.

The grounds about the office and mill have been extensively beautified. Hundreds of trees and lots of shrubbery and flowers have been planted. I would like to see this lovely spot in summer.

A BEAUTY PARLOR FOR THE MILL GIRLS

In the big roomy kindergarten building, near the mill, is a room handsomely fitted with every necessary device for permanent curling and waving hair for the girls of the mill, and no wonder they all look so neat and well groomed. Helen Floyd, herself a mill girl and whose parents work in the mill, has charge of the Beauty Parlor; she took special training for the work and delights in making the girls beautiful.

CLASSIFIED ADS.

Representative Wanted

Well known manufacturer of Textile Specialty has opening for reliable representative for the South. Must be familiar with spinning room operations. Liberal drawing account. Write giving full particulars and references to Textile Specialty, care Textile Bulletin.

Opening For Chemical Salesman

Manufacturer with large business among well known Southern mills is looking for a thoroughly reliable salesman to travel the Carolinas. Salary and commission to the right man. Write Chemicals, care Textile Bulletin.

POSITION WANTED — By experienced overseer weaving. Best of references. Will go anywhere. Reliable and sober. Address Weaving, care Textile Bulletin.

FOR SALE

1—Indigo Dyeing Machine.
2—Saco-Lowell Speeders 8"x3½", 144 spindles.
2—Woonsocket Intermediates 10"x5", 100 spindles.
2—Woonsocket Intermediates 10"x5", 100 spindles.
14—Draper Looms, Modified "D" 44", cloth.
24—Model "E" Draper Looms for 42" cloth.
20—Draper Looms Model E for 34" cloth.
5—108" Reed Space Crompton & Knowles Duck Looms, Automatic Shuttle Changing and Leno Attachment. Motor Drive.
500—New Shuttles for above looms. Loom beams, motors and spare parts for Crompton & Knowles Looms.
1—Saco-Lowell Thread Extractor.
1—Curtis & Marble Hot Press for 60" cloth.
1—Oswald Lever Cop Winder, 16 spindles.
200—9" Roving Cans.
1—Set of 6 Drying Cans, 48" face.
20—12" Coilers for Cards.

MACHINERY
Care Textile Bulletin

FOR SALE

Machinery and equipment of a large seamless hosiery mill. Scott & Williams, Banner, Wildman, etc., knitters and ribbers and balancing equipment. Will sell any part or all at low prices. What do you need? Address Knitter, care Textile Bulletin.

Need Help?
Find your man through a Bulletin Want Ad
This Size Space $3.00 per insertion

WANTED — Experienced loom fixers, twisters, beamers and quillers for plush will work. Address C. M. R., care Textile Bulletin.

WANTED—Position wanted by experienced Second Hand in cloth room of a large cotton mill in North or South Carolina. Address 245 Ebenezer Ave., Rock Hill, S. C.

Mill Supply Account Wanted

Experienced operating executive wants position as Southern representative with manufacturer of textile mill supplies or accessories. Best of references as to character and ability. Address T. S. C., care Textile Bulletin.

WANTED—Position as Chief Electrician. Experienced in all kinds textile construction and maintenance. Can control costs, manage help and know how to do the work myself. Capable of making all sorts of power tests. Best of character references. Address Electrician, care Textile Bulletin.

BULLETIN WANT ADS
Produce RESULTS At LOW COST
This Size Space $6.00

Chapman Electric Neutralizer

A new bulletin on the Chapman neutralizer has just been published by U. P. M.-Kidder Press Company, Dover, N. H., manufacturers of "Three Point" Presses and other printing equipment.

This bulletin describes how, through passing an alternating charge over the surface of the paper, the neutralizer prevents such troubles as the roving winding around rub rollers in woolen card rooms and breaking down of the web in cotton carding.

The neutralizer is also offered for use in removing static from cotton pickers, unwinders, napping machines, burr pickers, felt cards, etc.

The equipment itself consists of a power unit, inductor bars and connections between the two. With alternating current, the Chapman electric neutralizer needs only a transformer for stepping up the supply voltage to 12,000 volts—at the same time stepping down the current to 1-100th of an ampere or less, thus making it absolutely safe. With direct current, an inverted rotary converter or alternator is used, driven by direct current or belt from mechanical power.

A copy of this bulletin may be had by addressing the U. P. M.-Kidder Press Company at Dover, N. H. Ask for "Give Old Man Static Enough Rope and He Will Hang Himself."

Textile Labor Board Decides Four Cases

Washington.—Decisions favorable to both industry and the United Textile Workers of America were handed down by the Textile Labor Relations Board in making public findings in four cases of alleged discriminations filed by U .T. W. local unions since the termination of the strike last September.

In the matter of the Rosemary Manufacturing Company, Roanoke Rapids, N. C., the board finds that this company discriminated against 29 union employees in violation of Section 7-A of the Recovery Act and the code of fair competition for the cotton textile industry.

The Wakefield Textile Company, Inc., Wakefield, R. I., was also found by the board to be in violation of the act and the code of fair competition for the wool textile industry, in the discharge of certain employees for strike activities.

The Ninety-Six Cotton Mills, at Ninety-Six, S. C., the board finds, did not violate the Recovery Act or the cotton textile code as charged by the United Textile Workers. In this connection, the board noted with approval the agreement with the management to re-employ remaining strikers out of wor kas rapidly as possible.

The Alexander Manufacturing Company, Forest City, N. C., did not violate the Recovery Act or the cotton textile code as charged by the United Textile Workers of America, the board set forth in another decision.

Have you a problem to be solved?

January 9, 1935.

Corn Products Sales Company,
17 Battery Place,
New York City.

Gentlemen:

We are sending you by express today samples of unsized yarn, sized yarn and cloth. These samples represent our Style 6625 which is standard 100 x 60 carded broadcloth, 30's warp and 40's filling.

We would appreciate your laboratory analysis, showing percentage of moisture and added size, together with suggestions which your Research Service Department may be able to offer to improve our weaving production on this fabric.

We will thank you to give this matter your prompt attention.

Very truly yours,

J. H. Mills

Vice-Pres.
THE XYZ MILL

P. S. Please let us have the report and also invoice covering the above in duplicate.

ALL QUOTATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

CORN PRODUCTS SALES COMPANY

MILL STARCH DIVISION — 17 Battery Place.-New York N Y

January 15, 1935.

XYZ Mill,
South Carolina.

Gentlemen:

Referring to your letter of January 9th requesting analysis, we beg to submit the following:

	Unsized Yarn	Sized Yarn	Cloth
Moisture	4.71%	5.12%	8.10%
Added Size		7.03%	4.42%

Some authorities feel that a slightly higher moisture (6% to 8%) in the yarn after drying will improve production on this fabric. An increase in the percentage of added size is also recommended.

Regarding the postscript to your letter, we are not inclosing an invoice, as we are accustomed to perform the above service without charge. As you request we enclose the report of the analysis in duplicate.

Very truly yours,

J. V. Simpson

CORN PRODUCTS SALES COMPANY
Mill Starch Division

WE hope you will feel free to call one of our Research Service men to assist in working out any problems you may have in your plant.

CORN PRODUCTS SALES COMPANY • 17 BATTERY PLACE, NEW YORK CITY

BRANCH OFFICES: GREENVILLE, S. C. • SPARTANBURG, S. C. • BOSTON, MASS.